

Egypt Meteorological Dept.

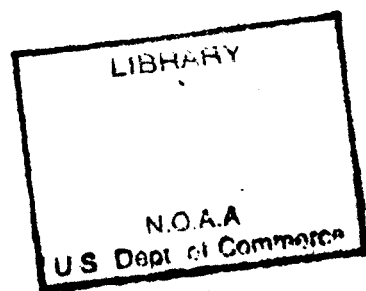
Ministry of Public Works, Egypt. - Physical Department.

report on the weather and state of the river.

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# **National Oceanic and Atmospheric Administration**

## **Environmental Data Rescue Program**

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September 14, 1999

## Ministry of Public Works, Egypt—Physical Department

### REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JANUARY 1934

#### The Weather

At the beginning of the month southerly winds prevailed and the weather was exceptionally warm, the 2nd—when the maximum temperature in Cairo was  $28.4^{\circ}\text{C}$  ( $84^{\circ}\text{F}$ ),—being the warmest January day since 1915. On the morning of the 3rd the winds veered to northwest and the weather became much cooler, while showers occurred in several localities. The rain was more wide-spread on the following day. In the early morning of the 5th the temperature at Siwa Oasis fell to  $2^{\circ}\text{C}$  below freezing point.

During the night of the 6th a shallow depression situated over Cyprus deepened, and rain fell along the Mediterranean coast of Egypt, the greatest amount recorded being 16 millimetres, at Rosetta. Showery weather continued in the north.

On the 9th a depression was situated off Benghazi, with a shallow low-pressure area extending north of Egypt. By the morning of the 11th the depression had reached Cyprus and had deepened. Strong northwest winds, reaching a velocity of 75 kilometres an hour at Alexandria, traversed Egypt, and the weather became much cooler. Showers were general throughout Lower Egypt. The weather improved after two days as the depression passed to northern Iraq.

Subsequent depressions traversing the eastern Mediterranean had less effect on the weather of Egypt, until the 20th, when a depression reached the coast of Palestine. Throughout Lower Egypt the weather was cool and showery, while on the next day northwesterly winds near the coast were strong, at times reaching gale force, and a velocity of 75 kilometres an hour was again registered at Alexandria. Conditions however rapidly improved.

On the 25th high pressure extended from the Balkans towards western Egypt, and cool fresh northeasterly winds traversed the country (the temperature at Giza fell to within a degree of freezing point in the early morning of 26th), but by the 27th a small depression appeared near Benghazi causing southeasterly winds in Egypt, with an increase in temperature. Its passage along the coast on the following day resulted in mild khamsin conditions, and a large amount of dust was raised. The depression passed on the 29th, the winds veering to west and northwest, and there were light showers near the coast and in the Delta.

For the month as a whole the barometric pressure was above normal in Lower Egypt and below elsewhere. Except in the southern Sudan the mean temperature was everywhere above normal, but not by large amounts. In Egypt, apart from the heat-wave in the first few days, when the temperature was  $10^{\circ}$  or  $11^{\circ}\text{C}$  above normal, the temperature rarely differed from the normal by more than 2 or  $3^{\circ}\text{C}$ . Rainfall in Egypt was on the whole below normal, but at Rosetta it amounted to 71 mms., compared with a normal of 48 mms. At Alexandria rain fell on 13 days, but the total was only 34 millimetres, the normal being 51 millimetres.

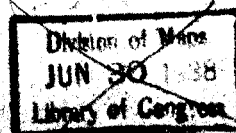


TABLE SHOWING THE DEPARTURES FROM NORMAL FOR JANUARY 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL.	
			MAXIMUM.		MINIMUM.		MAX.+MIN./2.			
	1933.	Difference from Normal	1933.	Difference from Normal.	1933.	Difference from Normal.	1933.	Difference from Normal.	1933.	Difference from Normal
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1 20·1	+1·8	18·8	+0·5	10·1	+0·4	14·4	+0·4	29	—11
II. Middle Egypt ... ..	1020·2	+0·6	19·4	+0·6	7·9	+0·8	13·6	+0·7	7	— 3
III. Upper Egypt ... ..	1019·2	—0·2	23·5	+1·0	8·1	+0·4	15·8	+0·7	1	0
IV. North Sudan ... ..	1013·8	—0·7	32·7	+1·8	15·4	+1·3	24·0	+1·6	0	0
V. Red Sea * ... ..	1016·3	+0·7	27·3	+0·2	19·9	+0·1	23·6	+0·2	1	— 6
VI. Central Sudan ... ..	1012·1	—1·4	34·0	+0·5	14·3	+0·3	24·2	+0·4	0	0
VII. South Sudan ... ..	1010·8	—0·6	35·1	—0·5	17·2	—0·4	26·2	—0·4	0	— 1

NOTE.—1,000 millibars is equivalent to 750.1 millimetres at 0°C. and mean gravity.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River.

Lake Albert at Butiaba fell 21 centimetres during the month. Its level on February 1st, 1934, was 50 centimetres above the normal and 46 centimetres below that of the corresponding day of last year.

The Bahr el Jebel at Juba remained steady throughout the month. The levels were a few centimetres above normal but on the average 22 cms. below those of last year.

The River Sobat at Nasser fell rather faster than normally throughout the month. The level which was 14 centimetres above normal at the beginning of the month being 26 cms. below normal at the end.

The White Nile at Malakal fell faster than normally the levels being above normal but much below last year's throughout the month.

The Blue Nile at Roseires fell at practically normal rate the levels being above normal and almost identical with those of last year throughout. At Khartoum the Blue Nile fell at normal rate, the levels being on the average 22 centimetres above normal.

The Main Nile at Kangarti fell at almost normal rate the levels being about 34 centimetres above normal throughout the month.

Kangarti gauge is 47 kilometres upstream of Wadi Halfa gauge and is used instead of Halfa gauge during that period of the year when the latter is affected by the heightened Aswân Reservoir.

The amount of water reaching Aswân during the month was about 17 per cent above the normal.

The differences of the mean levels in January 1934 from those of January 1933 and from the normal 1906-1930 were :—

STATION.	MEAN DIFFERENCES OF LEVELS	
	Jan. 1934 minus Jan. 1933	Jan. 1934 minus Normal
	Metres	Metres
Juba ... ..	- 0.22	+ 0.16
Nasser ... ..	- 2.07	- 0.09 *
Malakal ... ..	- 1.03	+ 0.42
Roseires ... ..	+ 0.03	+ 0.26
Khartoum ... ..	- 0.13	+ 0.22
Kangarti ... ..	+ 0.05	+ 0.34 †

\* Nasser normal is for 1922-1930 only.

† Kangarti normal is deduced from comparison curve between Kangarti and Wadi Halfa.

Transfer  
D. A. Weather Bureau  
JUN 20 1934

## Discharges of the Nile during December, 1933

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Halfa (contd.)</b>			<b>Gezira Main Canal</b> (Kilo. 1-3)			<b>River Sobât (at Head)</b> (Nasser Gauge)		
5	73.78	1810	27	3.05	1850	2	15.80	62	3	10.26	517
12	73.75	1710	28	3.04	1870	2	15.80	60	4	10.22	533
19	73.74	1650	31	3.02	1860	17	15.88	66	5	10.18	515
26	73.23	1330	Approx. Monthly Mean		2110	17	15.88	66	7	10.08	506
Approx. Monthly Mean		1600	Normal Mean 1912-1932		1810	Approx. Monthly Mean		62	9	9.98	476
<b>Aswân</b> (Measured by Sluices) Aswân D.S. Gauge.			<b>River Atbara (Kilo. 3)</b>			Normal Mean 1925-1932		57	12	9.78	456
1	86.95	1740	3	10.58	76	<b>Roseires (Blue Nile)</b>			13	9.72	435
2	86.95	1740	8	10.43	66	1	13.92	825	14	9.64	429
3	86.94	1740	13	10.22	48	3	13.78	751	16	9.51	420
4	86.94	1740	17	10.12	37	5	13.67	705	18	9.33	412
5	86.94	1740	22	10.00	25	7	13.56	671	19	9.24	398
6	86.92	1740	28	9.90	21	9	13.46	647	20	9.15	392
7	86.94	1740	Approx. Monthly Mean		45	11	13.38	609	21	9.05	375
8	86.93	1740	Normal Mean 1912-1932		15	13	13.30	586	23	8.84	378
9	86.92	1740	<b>Hassanab (Main Nile)</b>			15	13.21	558	26	8.45	341
10	86.92	1740	2	12.23	2020	17	13.15	537	27	8.31	329
11	86.92	1740	7	12.21	1990	19	13.09	510	28	8.19	323
12	86.92	1740	12	12.08	1870	21	13.02	495	30	7.93	296
13	86.90	1740	16	12.02	1780	23	12.96	476	Approx. Monthly Mean		425
14	86.89	1740	21	11.93	1750	25	12.89	444	Normal Mean 1929-1932		397
15	86.90	1750	27	11.82	1630	27	12.84	433	<b>River Baro</b>		
16	86.90	1750	Approx. Monthly Mean		1820	29	12.78	416	(6 Kms. U.S. Baro-Pibor Junction)		
17	86.89	1740	Normal Mean 1912-1932		1610	31	12.75	396	(Pibor Mouth Gauge)		
18	86.89	1740	<b>Tamaniât (Main Nile)</b>			Approx. Monthly Mean		564	3	8.88	272
19	86.80	1670	4	11.90	2040	Normal Mean 1912-1932		492	4	8.82	271
20	86.72	1600	9	11.80	1980	<b>Mogren (White Nile)</b>			5	8.75	256
21	86.60	1530	13	11.76	1910	3	12.30	1300	7	8.62	237
22	86.52	1460	18	11.66	1780	7	12.23	1270	9	8.49	204
23	86.43	1390	23	11.60	1790	12	12.16	1290	12	8.30	195
24	86.40	1390	30	11.46	1610	17	12.04	1230	13	8.23	196
25	86.38	1390	Approx. Monthly Mean		1840	21	11.98	1270	14	8.16	187
26	86.39	1400	Normal Mean 1912-1932		1620	28	11.79	1140	16	8.04	177
27	86.37	1390	<b>Khartoum (Blue Nile)</b>			Approx. Monthly Mean		1250	18	7.89	169
28	86.36	1390	2	12.04	794	Normal Mean 1912-1932		1080	19	7.83	168
29	86.27	1330	6	12.03	762	<b>Malakâl (White Nile)</b>			20	7.75	163
30	86.18	1280	11	11.88	632	5	12.70	1360	21	7.69	160
31	86.17	1280	16	11.80	557	10	12.67	1420	23	7.53	148
Approx. Monthly Mean		1610	20	11.71	445	15	12.64	1260	26	7.27	139
Normal Mean 1912-1932		1470	27	11.51	420	20	12.58	1290	27	7.19	135
<b>Halfa (Main Nile)</b>			Approx. Monthly Mean		549	25	12.50	1170	28	7.10	131
3	3.62	2380	Normal Mean 1912-1932		548	30	12.39	1150	30	6.96	124
4	3.59	2350	<b>Sennar (Blue Nile)</b>			Approx. Monthly Mean		1280	Approx. Monthly Mean		188
5	3.55	2350	2	6.05	736	Normal Mean 1912-1932		1100	Normal Mean 1929-1932		172
6	3.50	2280	4	5.92	660	<b>Hillet Doleib (River Sobât)</b>			<b>Gambeila (River Baro)</b>		
7	3.47	2250	6	5.82	625	3	14.17	780	Nov. 7	11.35	406
9	3.42	2230	9	5.73	584	9	14.12	762	10	11.30	389
12	3.35	2160	11	5.70	586	14	14.07	739	15	11.10	336
13	3.34	2170	13	5.62	548	20	13.99	707	17	11.06	327
14	3.35	2120	16	5.41	445	24	13.89	652	21	10.98	313
15	3.34	2160	19	5.44	445*	31	13.62	499	25	10.96	315
16	3.33	2150	21	5.44	441*	Approx. Monthly Mean		694	28	10.90	282
17	3.31	2120	23	5.39	428*	Normal Mean 1912-1932		629	Approx. Monthly Mean		346
18	3.29	2170	25	5.23	350*	<b>Normal Mean 1928-1932</b>			<b>Normal Mean 1928-1932</b>		
19	3.27	2090	27	5.12	330*						
20	3.24	2040	30	5.09	320*						
21	3.20	2070	Approx. Monthly Mean		501						
22	3.18	2050	Normal Mean 1912-1932		517						

\* Site transferred to Hillet Sherif.

# Discharges of the Nile during December, 1933 (continued)

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Gambeila (contd.)</b>			<b>River Pibor</b> (U.S. Mokwai Junction) (Mokwai Gauge)			<b>Akobo (contd.)</b>			<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)		
Dec. 1	10.64	232				Dec. 5	14.60	35	7	14.08	292
5	10.48	189				10	14.52	24	18	14.06	307
8	10.36	172	10	9.27	152	15	14.44	31	29	14.04	301
12	10.26	170	17	8.88	163	20	14.24	28			
15	10.18	164	24	8.40	163	25	13.99	25			
			31	7.80	141	30	13.64	25			
<b>River Pibor</b> (6 Kms. U.S. Baro-Pibor Junction) (Pibor Mouth Gauge)			Approx. Monthly Mean 153			Approx. Monthly Mean 29			Approx. Monthly Mean 300		
			Normal Mean 1929-1932 117			Normal Mean 1929-1932 41			Normal Mean 1923-1932 284		
3	8.88	243	<b>River Pibor</b> (D.S. Gila Junction) (Gila Gauge)			<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			<b>Gigging (Bahr el Jebel)</b> (Western Channel)		
4	8.82	245				8	13.18	209	3	29.14	215
5	8.75	246	11	9.78	122	19	13.10	225			
7	8.62	245	25	9.17	118	27	13.01	224			
9	8.48	249				30	12.97	221			
12	8.30	257									
13	8.22	247	Approx. Monthly Mean 120			Approx. Monthly Mean 220			Approx. Monthly Mean 210		
14	8.16	251	Normal Mean 1929-1932 122			Normal Mean 1912-1932 155			Normal Mean 1931-1932 236		
16	8.04	245	<b>River Gila (at Mouth)</b> (Gila Gauge)			<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)		
18	7.88	235				8	13.31	312	2	28.88	696
19	7.82	238	11	9.78	54	19	13.23	328			
20	7.74	226	25	9.17	53	30	13.10	335			
21	7.68	227									
23	7.52	224	Approx. Monthly Mean 56			Approx. Monthly Mean 326			Approx. Monthly Mean 669		
26	7.26	200	Normal Mean 1929-1932 36			Normal Mean 1923-1932 291			Normal Mean 1931-1932 694		
27	7.18	193	<b>River Pibor</b> (U.S. Gila Junction) (Gila Gauge)			<b>Lake No (White Nile)</b>			<b>Terrakekka (Bahr el Jebel)</b>		
28	7.10	193				7	14.08	304	1	13.42	919
30	6.96	177	11	9.78	73	18	14.06	309			
			25	9.17	68	29	14.04	288			
Approx. Monthly Mean 230											
Normal Mean 1929-1932 196			Approx. Monthly Mean 71			Approx. Monthly Mean 302			Approx. Monthly Mean 872		
<b>River Pibor</b> (D.S. Mokwai Junction) (Mokwai Gauge)			Normal Mean 1929-1932 87			Normal Mean 1923-1932 292			Normal Mean 1931-1932 937		
10	9.27	221	<b>Akobo (River Pibor)</b>			<b>Bahr el Ghazal</b> (At Mouth) (Suddite Factory Gauge)			<b>Mongalla (Bahr el Jebel)</b>		
17	8.88	213							1	11.92	892
24	8.40	186	Nov. 5	14.74	52				6	11.89	886
31	7.80	159	10	14.76	54				11	11.88	876
			15	14.76	51				16	11.91	896
Approx. Monthly Mean 201			20	14.74	44				26	11.84	859
Normal Mean 1929-1932 182			25	14.70	43						
<b>Khor Mokwai (at Mouth)</b> (Mokwai Gauge)			30	14.66	39						
10	9.27	71									
17	8.88	55									
24	8.40	35									
31	7.80	22									
Approx. Monthly Mean 55			Approx. Monthly Mean 48			Approx. Monthly Mean 18			Approx. Monthly Mean 878		
Normal Mean 1929-1932 70			Normal Mean 1929-1932 72			Normal Mean 1923-1932 14			Normal Mean 1912-1932 829		

Correction:—Gambeila discharge on Nov. 3rd. should read 445 and not 464 as published last month.

## Occasional Discharges

*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> . p.s.
			Reading	Site	
			M.		
<b>River Sobât Tributaries</b>					
-12-1933	Khor Fullus ...	U.S. Tail ... ..	14·18	H.Doleib	19
-12-1933	" " ...	Tail " ... ..	14·08	"	17
-12-1933	" " ...	Tail " ... ..	13·91	"	16
<b>White Nile Tributaries</b>					
-12-1933	Khor Lolle... ..	30 Kms. U.S. Tonga Cut ... ..	13·32	Tonga	19
-12-1933	" " ...	" " " " " " " " " " " "	13·24	"	18
-12-1933	" " ...	" " " " " " " " " " " "	13·14	"	34
-12-1933	Tonga Cut... ..	U.S. Tail ... ..	13·32	"	51
-12-1933	" " ...	Tail " ... ..	13·24	"	35
-12-1933	" " ...	Tail " ... ..	13·12	"	41
-12-1933	Khor Lolle... ..	U.S. Tonga Cut ... ..	13·32	"	57
-12-1933	" " ...	" " " " " " " " " " " "	13·24	"	60
-12-1933	" " ...	" " " " " " " " " " " "	13·12	"	38
-12-1933	Maya Sinyora ...	U.S. Tail ... ..	14·08	Lake No	12
-12-1933	" " ...	Tail " ... ..	14·06	"	9
-12-1933	" " ...	Tail " ... ..	14·04	"	10
-12-1933	Khor Yergol ...	U.S. Tail ... ..	14·39	K.Yergol	22
-12-1933	" " ...	Tail " ... ..	14·35	"	14
-12-1933	" " ...	Tail " ... ..	14·30	"	14
-12-1933	Khor Atar ... ..	U.S. Tail ... ..	13·43	Fenikang	21
<b>Bahr el Zerâf and Tributaries</b>					
-12-1933	Jebel Zerâf Cuts	Head Cut No. 1 ... ..	12·08	H. Cut 1	90
-12-1933	" " "	Tail Cut No. 1 ... ..	28·40	T. " 1	89
-12-1933	Zerâf ... ..	U.S. Tail Cut No. 1 ... ..	28·40	T. " 1	38
-12-1933	Jebel Zerâf Cuts	Head Cut No. 2 ... ..	26·86	H. " 2	16
-12-1933	" " "	Tail Cut No. 2 ... ..	26·86	H. " 2	15
-12-1933	Zerâf ... ..	Pole 53 ... ..	26·74	Pole 53	154
-12-1933	Khor Gang... ..	Head ... ..	23·98	K. Gurr	—5
-12-1933	Zerâf ... ..	D.S. Khor Gang ... ..	23·98	"	135
-12-1933	Khor Gurr... ..	Tail ... ..	23·98	"	109
-12-1933	Zerâf ... ..	200 mts. D.S. Khor Gurr Junction ... ..	23·98	"	189
-12-1933	" " ...	Khor Gurr Gauge ... ..	23·98	"	179
-12-1933	Khor Gang ...	Tail ... ..	23·98	"	31
-12-1933	Zerâf ... ..	0·8 Km. D.S. Khor Gang Tail ... ..	23·98	"	180
-12-1933	" " ...	Meshra Kwatch Gauge ... ..	21·46	M. kwatch	179
-12-1933	" " ...	D.S. Khor Tithbel ... ..	21·46	"	177
-12-1933	" " ...	R. P. 29... ..	18·88	Pole 29	177
-12-1933	Khor Famir ...	3 Kilos U.S. Tail ... ..	18·88	"	1
-12-1933	Zerâf ... ..	R.P. 24 ... ..	18·88	"	157
-12-1933	" " ...	Pole 19 ... ..	17·14	Pole 19	153
-12-1933	Khor Nwazlyel ...	Tail ... ..	17·14	"	18
-12-1933	Zerâf ... ..	Fangak ... ..	12·77	Fangak	205
-12-1933	" " ...	Pole 10 ... ..	15·50	Pole 10	220
-12-1933	" " ...	" 6 ... ..	15·50	"	223
<b>Bahr el Jebel</b>					
-12-1933	Jebel ... ..	About 5 Kms. U.S. Gigging ... ..	29·14	Gigging	195
-12-1933	" " ...	" 3 " D.S. ... ..	29·14	"	215
-12-1933	" " ...	" 7 " " " " " " " " " "	29·14	"	210

P. PHILLIPS,

*Director, Hydrological Service.*

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**Government Press**

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## Ministry of Public Works, Egypt—Physical Department

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### REPORT ON THE WEATHER AND STATE OF THE RIVER FOR FEBRUARY 1934

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#### The Weather

After the first week, exceptionally cold.

At the beginning of the month Egypt was an area of high pressure, and the weather was mild. The approach of a small depression gave rise to warm southerly winds. On the 5th the temperature in Cairo reached  $25^{\circ}\text{C}$ , or  $5^{\circ}\text{C}$ , above normal, and this was by far the warmest day of the month.

On the 6th the depression was north of the Delta, and strong cold west and northwest winds arriving in Egypt caused a rapid fall in temperature; in Cairo it was about  $7^{\circ}\text{C}$ . cooler at noon than at the previous midnight. At Alexandria the wind velocity reached 85 kilometres an hour.

From the 8th until the end of the month Egypt was almost continuously under the effect of low pressure over the eastern Mediterranean, and a prolonged spell of abnormally cold weather was experienced.

On the 10th the depression over Cyprus deepened, and the weather became very unsettled and rainy for three days. At Alexandria the wind velocity at one time reached 90 kilometres an hour, and maintained gale force for 15 hours; conditions over the eastern Mediterranean were very rough. A current of cold air from the Black Sea reaching Egypt on the 10th eventually traversed the Sudan to the extreme south.

The weather improved on the 12th but two days later a depression moved from Asia Minor to Cyprus and deepened. Very severe cold was prevailing at this time in the Balkans, and on the 15th northerly winds arriving from this region struck western Egypt, resulting in remarkably cold weather conditions along the coast. At Salum the temperature fell to freezing point (an extremely rare phenomenon for coastal localities in Egypt), and sleet and snow fell more or less continuously during the morning. The ground was covered, in some places about an inch deep, and the western and northwestern walls of buildings were covered with snow, which remained for some hours. During this blizzard the wind velocity rose to 90 kilometres an hour. Freezing point was reached also on the following night. At Mersa Matruh the temperature did not exceed  $4^{\circ}\text{C}$ . throughout the day, and fell to  $2^{\circ}\text{C}$ . during the night. At Alexandria the minimum temperature was  $2.8^{\circ}\text{C}$ .—the lowest on record there since 1888 at least. Heavy rain and hail fell along the coast, the largest amount recorded being 28 millimetres at Matruh and in many localities severe sandstorms occurred seriously affecting transport. The cold wave crossed Egypt rapidly, and in the early morning of the 17th the temperature fell to freezing point at many places in the Delta and the Fayum, and even at Qena in Upper Egypt, while in the oases of Baharia, Dakhla and Kharga, temperatures of  $3^{\circ}$ ,  $2^{\circ}$  and  $4^{\circ}\text{C}$ . below freezing point were registered. In the Sudan the temperature fell to  $9^{\circ}$  or  $10^{\circ}\text{C}$ . below the normal.

Subsequently the cold became less pronounced, but on the 23rd, following the passage of a depression along the Mediterranean to Iraq, winds from Asia Minor again brought a sharp fall in temperature in Egypt, and the cold weather continued with gradually diminishing intensity until the end of the month.

For the month as a whole the barometric pressure was above normal except in the central and southern Sudan, while the temperature was everywhere below normal. This was the coldest February since 1911 on the Mediterranean coast; elsewhere in Egypt it was the coldest February since 1920. Rain fell at Alexandria on 13 days—eight of them in succession, and on the Mediterranean coast the rainfall was about double the normal for the month; inland it was about normal.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR FEBRUARY 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX. + MIN./2.			
	1934.	Difference from Normal	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1018.6	+1.5	17.2	-1.7	8.1	-2.2	12.6	-2.0	47	+21
II. Middle Egypt ... ..	1019.4	+1.2	18.6	-1.9	6.0	-1.5	12.3	-1.7	9	-1
III. Upper Egypt ... ..	1019.0	+0.7	22.5	-2.3	6.3	-2.4	14.4	-2.4	0	-1
IV. North Sudan ... ..	1013.9	+0.5	30.9	-1.7	13.8	-1.0	22.4	-1.4	0	0
V. Red Sea * ... ..	1015.7	+0.9	25.9	-1.2	18.6	-0.4	22.2	-0.8	6	+2
VI. Central Sudan ... ..	1011.7	-0.8	34.3	-0.7	14.6	-0.5	24.4	-0.6	0	0
VII. South Sudan ... ..	1010.2	-0.1	35.7	-1.1	18.6	-0.4	27.2	-0.8	0	-6

\*Port Sudan Only.

NOTE.—1,000 millibars is equivalent to 750.1 millimetres at 0°C. and mean gravity.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River.

Lake Albert at Butiaba fell 19 centimetres during the month. Its level on March 1st, 1934 was 43 centimetres above the normal but 56 centimetres below that of the corresponding day of last year.

The Bahr el Jebel at Juba remained steady during the month, the levels being above normal but below last year's throughout.

The River Sobat at Nasser fell at normal rate until the 21st, rose slightly for two days and fell again thereafter. The levels were below both the normal and those of last year.

The White Nile at Malakal fell at normal rate until the 25th and remained steady thereafter. The levels were a few centimetres above normal but much below last year's.

The Blue Nile at Roseires fell rather faster than normally during the month.

At Khartoum the Blue Nile fell generally faster than normally for the first 23 days and then rose slightly to the end of the month.

The Main Nile at Kajnarti fell faster than normally throughout the month, the level which was 23 centimetres above normal at the beginning being 1 centimetre below it at the end.

The differences of the mean levels in February 1934 from those of February 1933 and from the normal 1906-1930 were:—

STATION.	MEAN DIFFERENCES OF LEVELS	
	Feb. 1934 minus Feb. 1933	Feb. 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0.24	+ 0.16
Nasser ... ..	— 0.25	— 0.17 *
Malakal ... ..	— 0.53	+ 0.11
Roseires ... ..	— 0.05	+ 0.17
Khartoum ... ..	— 0.51	+ 0.07
Kajnarti ... ..	— 0.60	+ 0.18

\* Nasser normal is for 1922-1930 only.

By Transfer  
U. S. Weather Bureau  
JUN 20 1938

## Discharges of the Nile during January, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Kagnarty (contd.)</b>			<b>Gezira Main Canal</b> (Kilo. 1-3)			<b>River Sobât (at Head *)</b> (Nasser Gauge)		
2	73.01	1290	25	133.97	1460	1	15.82	59	1	7.72	282
9	73.01	1210	26	133.91	1420	1	15.82	60	2	7.61	293
16	73.00	1270	27	133.88	1410	20	15.64	51	3	7.49	271
24	73.07	1320	28	133.85	1420	20	15.64	51	4	7.37	268
31	73.01	1270	30	133.75	1360	Approx. Monthly Mean 54			6	7.25	251
Approx. Monthly Mean 1270			31	133.72	1370	Normal Mean 1926-1933 45			9	6.80	245
			Approx. Monthly Mean 1560						10	6.71	234
			Normal Mean 1912-1933 1380						11	6.60	219
									13	6.44	200
									14	6.36	192
									15	6.28	179
									16	6.22	170
									18	6.09	156
									20	5.97	146
									21	5.90	138
									22	5.85	133
									23	5.80	127
									24	5.73	121
									25	5.70	116
									27	5.60	105
									28	5.57	100
									29	5.53	98
									30	5.49	92
									31	5.45	91
									Approx. Monthly Mean 181		
									Normal Mean 1929-1933 178		

**Discharges of the Nile during January, 1934 (continued)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.
<b>Akobo (River Pibor)</b>			<b>Lake No (White Nile)</b>			<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			<b>Terrakekka (Bahr el Jebel)</b>		
5	13.12	20	7	14.02	316	7	14.02	303	1	13.28	821
10	12.62	17	17	13.99	350	17	13.99	312	<b>Approx. Monthly Mean</b>		794
<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			27	13.92	388	27	13.92	335	<b>Normal Mean 1931-1933</b>		832
9	12.68	227	<b>Approx. Monthly Mean</b> 347			<b>Approx. Monthly Mean</b> 316					
18	12.42	238	<b>Normal Mean 1923-1933</b> 300			<b>Normal Mean 1923-1933</b> 289					
28	12.16	220							<b>Mongalla (Bahr el Jebel)</b>		
<b>Approx. Monthly Mean</b> 228						<b>Gigging (Bahr el Jebel)</b> (Western Channel)			1	11.82	852
<b>Normal Mean 1912-1933</b> 149						3	29.00	203	6	11.80	846
			<b>Bahr el Ghazal</b> (At Mouth)			<b>Approx. Monthly Mean</b> 190			11	11.78	831
			(Suddite Factory Gauge)			<b>Normal Mean 1931-1933</b> 199			16	11.75	818
			7	14.10	11				21	11.73	799
			16	14.06	23	<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)			26	11.70	775
			27	14.02	32	2	28.76	636	<b>Approx. Monthly Mean</b> 813		
<b>Abu Tong (White Nile)</b> (Tonga Gauge)						<b>Approx. Monthly Mean</b> 618			<b>Normal Mean 1912-1933</b> 749		
9	12.89	362				<b>Normal Mean 1931-1933</b> 619					
18	12.65	393	<b>Approx. Monthly Mean</b> 22								
28	12.45	400	<b>Normal Mean 1923-1933</b> 16								
<b>Approx. Monthly Mean</b> 378											
<b>Normal Mean 1923-1933</b> 317											

**Occasional Discharges**  
*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
			M.		
<b>River Sobât Tributaries</b>					
10-1-1934	Khor Fullus ...	Tail ... ..	13.06	H.Doleib	14
14-1-1934	" " ...	" ... ..	12.85	"	11
23-1-1934	" " ...	" ... ..	12.38	"	11
<b>White Nile and Tributaries</b>					
6-1-1934	Tonga Cut ...	Tail ... ..	12.96	Tonga	51
15-1-1934	" ...	" ... ..	12.72	"	32
25-1-1934	" ...	" ... ..	12.51	"	20
25-1-1934	" ...	Head ... ..	12.51	"	18
6-1-1934	Khor Lolle ...	U.S. Tonga Cut ... ..	12.96	"	38
15-1-1934	" ...	" " " ... ..	12.72	"	39
25-1-1934	" ...	" " " ... ..	12.51	"	30
8-1-1934	White Nile ...	700 mts. D.S. Khor Yergol ... ..	14.19	K.Yergol	307
8-1-1934	Maya Sinyora ...	Tail ... ..	14.02	Lake No	8
16-1-1934	" ...	" ... ..	13.99	"	6
26-1-1934	" ...	" ... ..	13.92	"	3
8-1-1934	White Nile ...	U.S. Maya Sinyora ... ..	14.02	"	307
<b>Bahr el Jebel</b>					
3-1-1934	Jebel (west. chann.) ...	About 5 Kms. U.S. Giggling ... ..	29.00	Giggling	182
3-1-1934	" " " ...	" 3 " D.S. " ... ..	29.00	"	201
3-1-1934	" " " ...	" 7 " " " ... ..	29.00	"	192

P. PHILLIPS,  
*Director, Hydrological Service.*

## Ministry of Public Works, Egypt—Physical Department

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### REPORT ON THE WEATHER AND STATE OF THE RIVER FOR MARCH 1934

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#### The Weather

Four heat waves of moderate intensity were experienced during March.

At the beginning of the month a depression was approaching from the west, and on the 3rd was situated over the desert west of Siwa Oasis, causing very warm southerly winds and khamsin weather to prevail in Egypt. At Salum the wind velocity reached 100 kilometres per hour. By the following morning the depression was off Alexandria, while a deeper depression was centred over Crete. Throughout Egypt the winds strengthened, reaching gale force in many localities, while sandstorms were general and of unusual severity, considerably impeding railway traffic in places by depositing sand on the permanent way, while navigation in the canal and ports was adversely affected by the gale and the low visibility due to the sand in the air. The southerly gale at Salum, which began in the afternoon of the 3rd, increased greatly in severity in the morning of the 4th, causing extensive structural damage. At the height of the storm the velocity reached 122 kilometres per hour and on account of the lifted sand visibility was at times less than thirty metres. This is the highest wind velocity on record in Egypt, the previous highest being 119 kilometres per hour at Alexandria in January 1908. With the passage of the depressions towards Syria on the following day, winds in Egypt veered to the west and moderated, while the temperature fell appreciably.

For the next week the weather was slightly cooler than usual for the time of year, with moderate winds chiefly from the west for the first few days, while later high pressure over western Egypt resulted in fresh north-easterly winds.

On the 15th a depression was centred off Benghazi, and moving rapidly along the coast, caused warm southerly winds in Egypt, but by the evening of the following day this depression had passed the Delta, and cool northerly winds following in its rear brought an abrupt fall in temperature. Settled conditions with pleasant weather prevailed until the 23rd, when a depression developed over Upper Egypt. There was little wind, and the weather became warmer. A thunderstorm occurred near Qena: heavy rain fell which caused floods and much damage to houses and crops in that district. The rainfall area extended from the Nile to the Red Sea coast.

On the 26th a deep depression was centred off Benghazi, while there was a shallow depression in the desert west of Aswan, the warm weather being maintained. With the passage of the Mediterranean depression to the east, a well developed north-west current traversed Egypt by the following evening, bringing a sharp fall in temperature. At the end of the month the weather again became warm under the influence of easterly winds.

For the month as a whole, barometric pressure was normal along the Mediterranean coast and below normal elsewhere, especially in Upper Egypt and the northern and central Sudan. Temperature was above normal, but not by large amounts. Apart from the storm in Upper Egypt on the 23rd, practically no rain fell in Egypt. In the southern Sudan rainfall was normal. The strong winds on the Mediterranean coast especially in the west, reaching hurricane strength at Salum, were an outstanding feature.

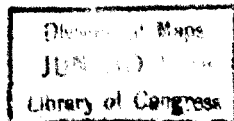


TABLE SHOWING THE DEPARTURES FROM NORMAL FOR MARCH 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL.	
			MAXIMUM.		MINIMUM.		MAX. + MIN./2.			
	1934.	Difference from Normal	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1015.8	0.0	21.9	+1.3	12.5	+0.5	17.2	+0.9	0	-11
II. Middle Egypt ... ..	1015.2	-1.2	25.8	+1.8	10.6	+0.8	18.2	+1.3	0	-5
III. Upper Egypt ... ..	1013.6	-1.9	31.2	+1.6	12.2	+0.1	21.7	+0.8	0	0
IV. North Sudan ... ..	1008.8	-2.1	38.0	+1.8	18.8	+1.0	28.4	+1.4	3	+3
V. Red Sea * ... ..	1012.5	-0.5	28.7	+0.1	19.4	-0.2	24.0	-0.0	0	-1
VI. Central Sudan ... ..	1007.8	-2.2	39.1	+1.4	18.3	+0.4	28.7	+0.9	0	-1
VII. South Sudan ... ..	1008.0	-1.0	38.7	+0.3	20.7	-0.5	29.7	-0.1	24	+2

\*Port Sudan Only.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River.

Lake Albert at Butiaba fell 14 cms. during the month. Its level on April 1st, 1934 was 39 cms. above the normal but 58 cms. below that of the corresponding day of last year.

Except for a flush on the fifth the Bahr el Jebel at Juba remained almost steady throughout the month. The levels were a few cms. above normal but much below those of last year.

The River Sobat at Nasser fell steadily during the month the levels were below both the normal and last year's.

The White Nile at Malakal fell at normal rate. The levels were a few cms. above normal but below last year's throughout the month.

The Blue Nile at Roseires fell faster than normally. The levels were above normal for the first three weeks and below it thereafter but below last year's throughout the month.

At Khartoum the Blue Nile fell at normal rate. The levels were a few cms. below normal and much below last year's.

The Main Nile at Kajarti fell faster than normally during the first ten days and at normal rate thereafter, the levels were below normal and much below those of last year.

The differences of the mean levels in March 1934 from those of March 1933 and from the normal for 1906-30 were:—

STATION.	MEAN DIFFERENCES OF LEVELS	
	March 1934 minus March 1933	March 1934 minus Normal
	Metres	Metres
Juba ... ..	- 0.32	+ 0.11
Nasser ... ..	- 0.34	- 0.31 †
Malakal ... ..	- 0.20	+ 0.11
Roseires ... ..	- 0.12	+ 0.05
Khartoum ... ..	- 0.17	- 0.08
Kajarti ... ..	- 0.73	- 0.15

† Nasser normal is for 1922-1930 only.

## Discharges of the Nile during February, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Hassanab (Main Nile)</b>			<b>Roseires (contd.)</b>			<b>Gambeila (River Baro)</b>		
6	73.02	1260	1	11.34	1200	11	11.89	191	Jan. 23	9.58	70
13	72.65	1080	6	11.28	1130	13	11.85	186	27	9.54	63
20	72.53	969	15	11.02	915	15	11.81	178	30	9.53	61
27	72.32	908	20	10.95	879	17	11.79	175	<b>Approx. Monthly Mean</b> 79		
<b>prox. Monthly Mean</b> 1080			27	10.80	769	19	11.78	170	<b>Normal Mean 1928-1933</b> 81		
			<b>Approx. Monthly Mean</b> 966			21	11.80	178			
			<b>Normal Mean 1912-1933</b> 910			23	11.79	173			
						25	11.75	166			
						27	11.70	158			
						<b>Approx. Monthly Mean</b> 187					
						<b>Normal Mean 1912-1933</b> 186					



**Discharges of the Nile during February, 1934 (continued)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			<b>Terrakekka (Bahr el Jebel)</b>		
7	13.88	339	1	13.09	766
17	13.81	359			
27	13.78	356			
Approx. Monthly Mean		350	Approx. Monthly Mean		748
Normal Mean 1923-1933		295	Normal Mean 1931-1933		793
<b>Gigging (Bahr el Jebel)</b> (Western Channel)			<b>Mongalla (Bahr el Jebel)</b>		
3	28.78	173	1	11.66	767
Approx. Monthly Mean		164	6	11.65	761
Normal Mean 1931-1933		185	11	11.63	766
<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)			16	11.61	761
2	28.59	595	21	11.58	717
Approx. Monthly Mean		586	26	11.55	718
Normal Mean 1931-1933		593	Approx. Monthly Mean		747
			Normal Mean 1912-1933		699

# Occasional Discharges

*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> . p.s.
			Reading	Site	
			M.		
<b>River Sobât Tributaries</b>					
3-2-1934	Khor Fullus ...	Mouth ...	11.95	H.Doleib	5
13-2-1934	" " ...	" " ...	11.73	"	2
23-2-1934	" " ...	" " ...	11.63	"	2
<b>White Nile Tributaries</b>					
5-2-1934	Tonga Cut ...	Mouth ...	12.31	Tonga	9
16-2-1934	" " ...	" " ...	12.20	"	14
26-2-1934	" " ...	" " ...	12.13	"	7
5-2-1934	" " ...	Head ...	12.31	"	11
5-2-1934	Khor Lolle ...	U.S. Tonga Cut	12.31	"	28
16-2-1934	" " ...	" " "	12.20	"	21
26-2-1934	" " ...	" " "	12.13	"	16
7-2-1934	Maya Sinyora ...	Mouth ...	13.88	Lake No	3
<b>Bahr el Jebel</b>					
3-2-1934	Jebel (west. chann.) ...	About 5 Kms. U.S. Giggling	28.78	Giggling	166
3-2-1934	" " " ...	" 3 " D.S. " "	28.78	"	166
3-2-1934	" " " ...	" 7 " " " "	28.78	"	176

P. PHILLIPS,

*Director, Hydrological Service.*

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# Ministry of Public Works, Egypt.—Physical Department.

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR APRIL 1934

### The Weather

The principal features were the severe sandstorm on the 1st and widespread thunderstorms on the 17th.

On the morning of the 1st a deep depression arrived over western Egypt, having travelled from the interior of Tripoli with unusually high speed—between 60 and 70 kilometres an hour. Pressure in Egypt fell very rapidly: at Alexandria the pressure during the afternoon decreased to 744 millimetres, which is less than two millimetres greater than the lowest pressure on record there. South-east winds arose, and quickly reached gale force, a velocity of 90 kilometres an hour being registered at Heliopolis. A very opaque sandstorm was the result, and at times the visibility was reduced to less than thirty metres. The weather was warm, the temperature in Cairo reaching  $34^{\circ}\text{C}$ , or  $8^{\circ}\text{C}$  above the normal. The storm continued throughout the greater part of the day, but the trough of the depression passed the Delta during the evening, and the storm then abated. Light showers followed in many places, particularly in the eastern parts of the country, while at Port Said there was a hailstorm. By the next morning the depression was passing over the Syrian desert, and the weather in Egypt became settled and cool, with light north-west winds.

On the 4th a shallow depression was situated off Salum, while there was also a shallow depression in the desert west of Assiût. Warm south-east winds again traversed Egypt, but they were only of moderate strength and within two days the disturbances had passed to the east.

For the next week the temperature was a few degrees above the average for the time of year, and the weather was generally settled.

On the 17th a depression which was situated over the Syrian desert deepened, while there was also a shallow depression near Port Said. Under the influence of a steep gradient of pressure a cool north-westerly current traversed Egypt, and the weather became cloudy. During the evening and night heavy rain fell throughout the Delta, while thunderstorms were reported in many localities. Rain was widespread also on the following day, the largest amount recorded during the two days being 13 millimetres, at Port Said.

Cool weather was maintained for a few days, but on the 23rd, depressions again appeared in the west, and the weather in Egypt became steadily warmer day by day. By the 26th a small depression was approaching Salum, and the winds in Egypt blew from the south-east. At Giza the temperature reached  $40^{\circ}\text{C}$  ( $104^{\circ}\text{F}$ ), or  $10^{\circ}\text{C}$  above normal, while in Cairo  $38^{\circ}\text{C}$  was recorded. The secondary passed along the coast of Egypt on the following day, while the main depression had reached Asia Minor. By the 28th Egypt lay in the cold sector of these depressions, fresh north-west winds arrived, and the temperature rapidly fell.

For the month as a whole the barometric pressure was below normal in all districts, while except on the Mediterranean coast the temperature was above normal, but the departures were nowhere large. Rainfall in the southern Sudan was well above normal.

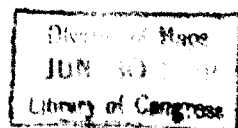


TABLE SHOWING THE DEPARTURES FROM NORMAL FOR APRIL 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL.	
			MAXIMUM.		MINIMUM.		MAX.+MIN.2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1014.0	0.0	22.9	—0.6	14.2	—0.3	18.6	—0.4	6	+ 2
II. Middle Egypt ... ..	1013.3	—1.0	29.4	+0.9	13.4	+0.6	21.4	+0.8	2	— 1
III. Upper Egypt ... ..	1011.6	—1.1	35.3	+0.7	16.7	0 0	26.0	+0.4	0	0
IV. North Sudan ... ..	1008.1	—0.5	41.0	+1.2	22.2	+0.8	31.6	+1.0	0	— 1
V. Red Sea * ... ..	1010.7	—0.4	32.5	+0.9	21.5	0.0	27.0	+0.4	0	— 1
VI. Central Sudan ... ..	1007.3	—0.9	40.7	+0.6	22.5	+1.5	31.6	+1.0	3	— 1
VII. South Sudan ... ..	1008.9	—0.1	36.8	—1.0	23.7	+1.2	30.2	+0.1	92	+22

\* For Sudan Only.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River.

Lake Albert at Butiaba fell 6 cms. during the month. Its level on May 1, 1934 was 32 cms. above normal but 61 cms. below that of the corresponding day of last year.

The Bahr el Jebel at Juba remained steady for the first 10 days, and fluctuated above normal thereafter. Except on the 17th the levels were below last year's.

The River Sobat at Nasser rose faster than normally the level which was 36 cms. below normal at the beginning of the month reached normal on the 24th and was above last year's from the 18th onwards.

The White Nile at Malakal rose faster than normally and reached last year's levels at the end of the month.

At Roseires the Blue Nile was practically normal for the first 22 days, then followed a small but steady rise for 3 days and though this was not maintained the levels remained above normal to the end of the month. At Khartoum the Blue Nile was almost steady, a few centimetres below last year's levels throughout the month.

The Main Nile at Kajnarti fell faster than normally, the levels being below both the normal and those of last year.

The differences of the mean levels in April 1934 from those of April 1933 and from the normal 1906-1930 were :

STATION.	MEAN DIFFERENCES OF LEVELS	
	April 1934 minus April 1933	April 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0.27	+ 0.06
Nasser ... ..	— 0.15	— 0.24 †
Malakal ... ..	— 0.20	+ 0.17
Roseires ... ..	0.00	+ 0.06
Khartoum ... ..	— 0.09	— 0.33
Kajnarti ... ..	— 0.09	— 0.18

† Nasser normal is for 1922-1930 only.

By Transfer  
U. S. Weather Bureau  
JUN 20 1938

### Discharges of the Nile during March, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Hassanab (Main Nile)</b>			<b>Roseires (contd.)</b>			<b>Nasser (contd.).</b>		
6	72.18	861	1	10.80	798	11	11.54	130	20	4.80	44
13	72.22	788	9	10.80	778	13	11.51	119	21	4.78	45
22	72.13	806	12	10.73	719	15	11.47	116	22	4.76	43
29	72.09	722	14	10.73	715	17	11.44	115	24	4.74	42
pprox. Monthly Mean 805			19	10.73	721	19	11.41	109	28	4.69	38
			23	10.73	750	21	11.37	102	29	4.68	36
			Approx. Monthly Mean 748			23	11.35	99	31	4.74	41
			Normal Mean 1912-1933 702			25	11.32	93	Approx. Monthly Mean 48		
						27	11.30	91	Normal Mean 1929-1933 64		
						29	11.30	91			
						31	11.31	102			
						Approx. Monthly Mean 117					
						Normal Mean 1912-1933 130					

# Discharges of the Nile during March, 1934 (continued)

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Ghazal</b>			<b>Gigging (Bahr el Jebel)</b>			<b>Mongalla (Bahr el Jebel)</b>		
(At Mouth)			(Western Channel)					
(Suddite Factory Gauge)			3   28·62   152			2	11·54	720
7	13·87	23	Approx. Monthly Mean 150			6	11·52	728
17	13·82	16	Normal Mean 1931-1933 188			11	11·54	733
27	13·80	19				16	11·50	710
Approx. Monthly Mean		20				21	11·50	700
Normal Mean 1923-1933		13				26	11·50	735
			<b>Gemeiza (Bahr el Jebel)</b>			Approx. Monthly Mean 719		
			(Eastern Channel)			Normal Mean 1912-1933 676		
			4   28·47   574					
			Approx. Monthly Mean 575					
			Normal Mean 1931-1933 593					
<b>Bahr el Jebel (Kilo. 3)</b>								
(Lake No Gauge)								
7	13·78	364	<b>Terrakekka (Bahr el Jebel)</b>					
17	13·72	359	2   12·94   727					
27	13·70	351	Approx. Monthly Mean 710					
Approx. Monthly Mean		358	Normal Mean 1931-1933 796					
Normal Mean 1923-1933		297						

# Occasional Discharges

Observed by the Irrigation Department

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
			M.		
		<b>White Nile Tributaries</b>			
6-3-1934	Tonga Cut... ..	Mouth ... ..	12·09	Tonga	6
5-3-1934	" " ... ..	" ... ..	12·04	"	4
6-3-1934	Khor Lolle... ..	U.S. Tonga Cut ... ..	12·09	"	6
5-3-1934	" " ... ..	" " " ... ..	12·04	"	5
		<b>Bahr el Jebel</b>			
3-3-1934	Jebel (west. chann.) ...	About 5 kms. U.S. Giggling ... ..	28·62	Giggling	159
3-3-1934	" " " ... ..	" 3 " D.S. " ... ..	28·62	"	158
3-3-1934	" " " ... ..	" 7 " " " ... ..	28·62	"	156

P. PHILLIPS,  
*Director, Hydrological Service.*



## Ministry of Public Works, Egypt.—Physical Department.

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### REPORT ON THE WEATHER AND STATE OF THE RIVER FOR MAY, 1934

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#### The Weather

There were two heat waves of moderate intensity during May; otherwise the weather was unusually cool.

Cool north winds prevailed at the beginning of the month, but the advance of a shallow depression along the coast brought a gradual rise in temperature. On the morning of the 4th the depression was situated off Salum, and a gale was blowing from the southwest, the velocity reaching 88 kilometres an hour. The depression passed Mersa Matruh at 15 hour and within an hour the temperature there fell from 30°C to 20°C. By the following morning almost the whole of Egypt was in the cool sector of the depression, and fresh northwesterly winds prevailed. A spell of cool weather ensued, lasting until the middle of the month. During this period winds were mainly from the northeast. From the 8th to the 11th the sky was almost continuously overcast, less than ten hours of bright sunshine being recorded in Cairo in these four days, compared with eleven and a half hours of sunshine which are usually recorded in a single day at this time of the year.

Remarkably unsettled weather was experienced in Upper Egypt and on the Red Sea coast. Skies were overcast for some days; light rain fell in several localities, and thunderstorms occurred at Aswan on the 10th and 12th.

The weather was very unsettled in Lower Egypt on the 13th and heavy rain, accompanied in places by thunder and lightning, was general. At several stations over 10 millimetres of rain were registered, while at Port Said, 28 millimetres fell within two days. After the 14th the temperature rose gradually day by day for a week, reaching a peak on the 20th, when a shallow depression was passing north of Egypt. In Cairo the temperature reached 39°C (102°F). Hot weather was maintained for some days, with winds chiefly from the northeast. On the 26th high pressure was established on the west of Egypt, and the temperature rapidly fell, cool weather then prevailing for the rest of the month. Light rain and thunderstorms again occurred in Upper Egypt and the northern Red Sea.

For the month as a whole the barometric pressure was above normal on the Mediterranean coast, normal in Middle Egypt, and below normal elsewhere. Except in the Central Sudan the temperature was everywhere above normal, though only by small amounts except in Upper Egypt. On account of the heavy storms of a single day (13th), rainfall in Egypt was much above the normal for the month. In the Southern Sudan, rainfall was much in defect. The weather was cloudier than usual at this time of year in Egypt, the duration of bright sunshine averaging 10.5 hours per day compared with a normal of 11.3 hours during May.

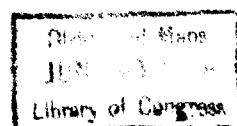


TABLE SHOWING THE DEPARTURES FROM NORMAL FOR MAY 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX.+MIN./2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1014.2	+0.9	26.0	—0.1	18.2	+0.9	22.1	+0.4	14	+12
II. Middle Egypt ... ..	1013.1	0.0	32.5	+0.1	17.9	+1.7	25.2	+0.9	8	+ 6
III. Upper Egypt ... ..	1010.2	—1.0	40.0	+1.9	22.1	+1.3	31.0	+1.6	0	0
IV. North Sudan ... ..	1007.6	—0.6	41.8	0.0	25.4	+0.5	33.6	+0.2	6	+ 1
V. Red Sea * ... ..	1010.5	+1.0	35.0	0.0	25.2	+1.5	30.1	+0.8	0	— 1
VI. Central Sudan ... ..	1008.2	—0.6	38.9	—0.8	23.3	+0.3	31.1	—0.2	31	+ 9
VII. South Sudan ... ..	1009.7	—0.5	35.0	—0.4	22.8	+0.7	28.9	+0.2	71	—46

\*Port Sudan Only.

L. J. SUTTON,  
*Director, Meteorological Service.*

### State of the River.

Lake Albert at Butiaba fell one cm. during the month. Its level on June 1st 1934 was 27 cms. above the normal but 62 cms. below that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated above normal during the first 15 days and about normal thereafter. Except on the 1st and 7th the levels were below last year's.

The River Sobat at Nasser fluctuated considerably below normal throughout the month. The levels were above last year's during the first ten days but below them thereafter.

The White Nile at Malakal rose at normal rate during the first 12 days, fell slightly until the 18th and rose again at normal rate thereafter. The levels were above normal throughout the month and above last year's during the first fortnight but below them afterwards.

The Blue Nile at Roseires fluctuated about the normal throughout the month the general level being below both the normal and last year's. At Khartoum the Blue Nile fluctuated below normal the levels except for the last few days being almost identical with those of last year.

The Main Nile at Kajnarti was almost steady for the first 20 days then rose slightly until the 27th and fell again afterwards. The levels throughout were below both the normal and last year's.

The differences of the mean levels in May 1934 from those of May 1933 and from the normal 1906-30 were:—

STATION.	MEAN DIFFERENCES OF LEVELS	
	May 1934 minus May 1933	May 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0.12	+ 0.07
Nasser ... ..	— 0.08	— 0.54 †
Malakal ... ..	+ 0.02	+ 0.25
Roseires ... ..	— 0.22	— 0.12
Khartoum ... ..	— 0.05	— 0.16
Kajnarti ... ..	— 0.14	— 0.32

† Nasser normal is for 1922-1930 only.

By Transfer  
U. S. Weather Bureau  
8361 0 2 NNR

## Discharges of the Nile during April, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Kajnarty (contd.)</b>			<b>Roseires (Blue Nile)</b>			<b>Nasser (contd.).</b>		
3	72.00	732	28	131.57	599	2	11.39	112	19	5.38	95
10	72.02	734	29	131.55	591	4	11.40	115	21	5.30	88
17	71.96	694	30	131.53	566	6	11.38	107	22	5.35	97
24	71.93	701	Approx. Monthly Mean 641			8	11.36	101	23	5.52	116
prox. Monthly Mean 712			Normal Mean 1912-1933 608			10	11.2	94	24	5.68	129
						12	11.32	97	25	5.75	133
						14	11.34	98	26	5.80	142
						16	11.31	95	28	5.73	135
						18	11.26	88	29	5.78	135
						20	11.25	83	30	5.77	135
						22	11.24	86	Approx. Monthly Mean 86		
						24	11.60	142	Normal Mean 1929-1933 89		
						26	11.64	152			
						28	11.57	137			
						30	11.57	138			
						Approx. Monthly Mean 109			<b>Gambeila (River Baro)</b>		
						Normal Mean 1912-1933 118			Mar. 16	9.29	33
									20	9.26	31
									23	9.26	30
									27	9.32	40
									30	9.32	46
									Approx. Monthly Mean 39		
									Normal Mean 1928-1933 46		
									Apr. 3	9.28	35
									6	9.32	42
									10	9.58	79
									13	9.64	89

## Discharges of the Nile during April, 1934 *(continued)*

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Ghazal</b>			<b>Gigging (Bahr el Jebel)</b>			<b>Mongalla (Bahr el Jebel)</b>		
(At Mouth)			(Western Channel)					
(Suddite Factory Gauge)			3   28.52   146			1   11.45   693		
7	13.80	22	Approx. Monthly Mean 173			6	11.47	690
17	13.76	23	Normal Mean 1931-1933 192			11	11.43	697
27	13.76	25				16	11.62	762
Approx. Monthly Mean		23				21	11.57	733
Normal Mean 1923-1933		12				26	11.86	859
			<b>Gemeiza (Bahr el Jebel)</b>			Approx. Monthly Mean 766		
			(Eastern Channel)			Normal Mean 1912-1933 720		
			2   28.39   577					
			Approx. Monthly Mean 613					
			Normal Mean 1931-1933 596					
<b>Bahr el Jebel (Kilo. 3)</b>			<b>Terrakekka (Bahr el Jebel)</b>					
(Lake No Gauge)								
7	13.70	345	1   12.84   690					
17	13.67	338	Approx. Monthly Mean 826					
27	13.67	329	Normal Mean 1931-1933 805					
Approx. Monthly Mean		339						
Normal Mean 1923-1933		296						

**Occasional Discharges**  
*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> . p.s.
			Reading	Site	
			M.		
<b>Bahr el Jebel and Tributaries</b>					
9-4-1934	Atem ... ..	Jonglei Site 4 ... ..	8·56	Jonglei	224
10-4-1934	" ... ..	" " 4 ... ..	8·56	"	229
20-4-1934	" ... ..	" " 4 ... ..	8·57	"	228
21-4-1934	" ... ..	" " 4 ... ..	8·58	"	230
9-4-1934	" ... ..	" " 3 ... ..	8·56	"	95
10-4-1934	" ... ..	" " 3 ... ..	8·56	"	102
20-4-1934	" ... ..	" " 3 ... ..	8·57	"	98
21-4-1934	" ... ..	" " 3 ... ..	8·58	"	100
12-4-1934	Jebel ... ..	R. Pole 101 ... ..	10·86	Kenisa	298
13-4-1934	" ... ..	" " ... ..	—	—	300
18-4-1934	" ... ..	" " ... ..	—	—	293
19-4-1934	" ... ..	" " ... ..	10·88	Kenisa	292
16-4-1934	" ... ..	Bor ... ..	10·97	Bor	632
16-4-1934	" ... ..	U.S. Aliab Tail 1 ... ..	—	—	654
16-4-1934	" ... ..	D.S. " " 2 ... ..	—	—	658
16-4-1934	" ... ..	U.S. Atem Head 1 ... ..	—	—	610
17-4-1934	" ... ..	D.S. " " 1 ... ..	—	—	582
17-4-1934	" ... ..	U.S. " " 2 ... ..	—	—	489
17-4-1934	" ... ..	D.S. " " 4C. ... ..	—	—	250
18-4-1934	" ... ..	U.S. Lake Papiu ... ..	—	—	188
18-4-1934	" ... ..	D.S. " " ... ..	—	—	376

P. PHILLIPS,  
*Director, Hydrological Service.*

## Ministry of Public Works, Egypt—Physical Department

### REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JUNE, 1934

#### The Weather

The chief features of the weather during June were the heat wave and haboobs which occurred and particularly affected Middle Egypt during the second week.

The month opened with cool pleasant weather, the maximum temperature in Cairo on the first day was only 28°C, compared with a normal of 34°C. A shallow depression was situated on that day over the northern Red Sea, fresh northwesterly winds prevailed throughout Egypt, and rather unsettled conditions were experienced in Upper Egypt. Dust storms with light rain occurred at Qena, Aswan and the Oases.

The weather then gradually became much warmer, by the 12th, two depressions approaching Egypt from the west, the first travelled quickly along the coast and reached Syria the next morning, but the second moved slowly towards Siwa and caused easterly and southerly winds, and thus the weather became exceedingly hot. The maximum temperature at Giza reached 44°C. By the next morning the depression was centred off Baharia Oasis and the heat wave intensified. The maximum temperature recorded in the Oases, Giza and Helwan was 45°C (112°F.) being 11°C. above normal for Helwan.

The weather was extremely oppressive during the day and night. Shortly after sunset a very warm haboob from the southeast sprang up over the southern part of the Delta, the temperature which was then 40°C. in Cairo rose to 42°C, an instantaneous maximum wind velocity of 95 k.p.h. being registered during the haboob at the R.A.F. Station, Heliopolis. Minor structural damage occurred. Shortly before midnight another strong gust from the southwest took place, and the temperature rose 2°C. in 5 minutes, (during both haboobs, the pressure jumped suddenly 2 millimetres and then dropped within a few minutes). It is interesting to note that shortly before the second haboob, the temperature in Cairo district was the highest throughout Egypt save Aswan.

The depression finally passed over Cairo about midnight, and a sharp drop in temperature followed when the cold front passed early on the next morning.

Another but less intense heat wave followed with the arrival on the 19th of a very shallow depression from the western desert. The temperature in Cairo district rose to 42° C, but by the following morning this depression had reached Sinai and Egypt was traversed by cool northerly winds, the maximum temperature on that day being 10°C. lower than the preceding day.

Cool weather was enjoyed for a few days, after which the usual summer conditions prevailed and remained until the end of the month.

For the month as a whole, the mean atmospheric pressure was about normal, the deviations nowhere exceeding half a millimetre, while the temperature was above normal in all the districts except north and central Sudan. The air was much drier than usual in Cairo, while the Sudan rainfall was in excess in northern and central Sudan and below normal elsewhere.

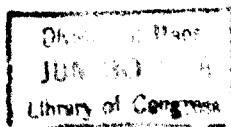


TABLE SHOWING THE DEPARTURES FROM NORMAL FOR JUNE 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX. + MIN./2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1012.4	+0.3	28.4	+0.2	20.5	+0.2	24.4	+0.2	0	0
II. Middle Egypt ... ..	1011.7	-0.1	35.8	+0.9	20.0	+1.0	27.9	+1.0	0	0
III. Upper Egypt ... ..	1008.8	-0.6	40.9	+0.8	23.4	+0.2	32.2	+0.5	0	0
IV. North Sudan ... ..	1008.1	+0.1	40.8	-1.1	25.6	-0.2	33.2	-0.6	35	+24
V. Red Sea * ... ..	1006.9	+0.3	40.0	+1.2	27.5	+1.9	33.8	+1.6	Drops.	0
VI. Central Sudan ... ..	1009.7	-0.1	35.1	-2.4	22.5	-0.3	28.8	-1.4	96	+47
VII. South Sudan ... ..	1011.3	0.0	32.6	-0.6	22.0	+0.8	27.3	+0.1	122	-17

\* Port Sudan Only.

RAINFALL DATA FOR JUNE 1934

STATION	1934	Diff. from Normal	STATION	1934	Diff. from Normal
	m. m.	m. m.		m. m.	m. m.
Juba ... ..	153	+ 31	Adis Abâba ... ..	171	+ 35
Wau ... ..	136	- 27	Roseires ... ..	208	+ 80
Malakâl ... ..	77	- 56	Wâd Medani ... ..	83	+ 43
El Obeid ... ..	68	+ 30	Atbara ... ..	5	+ 3
El Fasher ... ..	39	+ 20	Kassala ... ..	75	+ 44
Khartoum ... ..	61	+ 52	Port Sudan ... ..	Drops.	0

MAHMOUD H. MOHAMMAD

*Acting Director, Meteorological Service.*

### State of the River.

The level of Lake Albert was still on the down grade, the gauge reading at Butiaba falling six centimetres during the month. The level on July 1, 1934 was 18 centimetres above the normal but was 65 centimetres below the level on the corresponding day of last year.

The Bahr el Jebel at Juba remained almost steady during the first 20 days and then fluctuated a little above normal for the rest of the month. Except for the reading of the 28th the gauge readings were a few centimetres below those on the same days of last year.

The River Sobat at Nasser fell a little during the first three days and rose at a little more than normal rate thereafter. The levels were below normal throughout the month, below last year's during the first 13 days and above them thereafter.

The White Nile at Malakal rose steadily at normal rate. The levels were above normal throughout the month, below last year's during the first fortnight and above them during the second fortnight.

The Blue Nile at Roseires fluctuated about normal during the first week and above it thereafter. The levels were below last year's during the first five days and above them thereafter. At Khartoum the Blue Nile fluctuated below normal during the first 20 days and above it afterwards. The levels were below last year's during the first half of the month and above them during the second half.

The River Atbara at Khashm el Girba fluctuated above both the normal and last year's levels during the second half of the month.

The Main Nile at Kajarti fell during the first week, rose slightly until the 11th, fell again until the 17th and rose at normal rate thereafter. The levels were below normal throughout the month, almost identical with last year's until the 11th and below them thereafter.

*General Summary.*—The Main Rise of the River was a little late in starting but was well established during June.

The Blue Nile, the River Atbara and the White Nile were all above normal before the end of the month and the River Sobat was only a little below normal.

The differences of the mean levels in June 1934 from those of June 1933 and from the normal 1906–1930 were :—

STATION.	MEAN DIFFERENCES OF LEVELS	
	June 1934 minus May 1933	June 1931 minus Normal
	Metres	Metres
Juba ... ..	— 0·14	0·00
Nasser ... ..	+ 0·18	— 0·57 †
Malakal ... ..	+ 0·01	+ 0·18
Roseires ... ..	+ 0·37	+ 0·29
Khartoum ... ..	+ 0·14	— 0·05
Kajuarti ... ..	— 0·13	— 0·34

† Nasser normal is for 1922–1930 only.



## Discharges of the Nile during May, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Kajnarty (contd.)</b>			<b>Roseires (Contd.)</b>			<b>Nasser (contd.)</b>		
1	71.92	690	28	131.84	673	16	12.23	236	27	6.28	207
8	72.10	758	29	131.81	650	18	12.48	337	28	6.34	205
15	72.35	916	30	131.78	647	20	11.58	138	29	6.40	216
22	72.40	950	31	131.78	645	22	11.56	137	30	6.46	226
29	72.45	927	Approx. Monthly Mean		621	24	11.43	111	31	6.55	235
Approx. Monthly Mean		862	Normal Mean 1912-1933		581	26	11.81	178	Approx. Monthly Mean		153
<b>Aswân</b> (Measured by Sluices) (Aswân D.S. Gauge.)			<b>Hassanab (Main Nile)</b>			Approx. Monthly Mean			Normal Mean 1929-1933		192
1	85.38	879	3	10.60	632	<b>Mogren (White Nile)</b>			<b>Gambeila (River Baro)</b>		
2	85.39	879	5	10.56	598	2	10.28	521	Apr. 17	9.48	77
3	85.36	867	12	10.67	706	6	10.33	550	20	9.77	110
4	85.36	868	19	10.65	669	13	10.44	584	24	9.86	119
5	85.36	870	22	10.66	687	17	10.58	561	27	9.86	119
6	85.36	868	27	10.65	702	23	10.39	592	Approx. Monthly Mean		86
7	85.35	868	Approx. Monthly Mean		673	28	10.48	619	Normal Mean 1928-1933		86
8	85.36	867	Normal Mean 1912-1933		640	Approx. Monthly Mean			May 1		
9	85.35	868	<b>Tamaniât (Main Nile)</b>			Normal Mean 1912-1933			4	10.02	136
10	85.36	865	3	10.02	652	<b>Malakâl (White Nile)</b>			8	9.58	81
11	85.60	995	7	10.11	724	5	10.12	614	12	9.60	83
12	85.60	994	14	10.21	781	10	10.47	636	15	9.82	116
13	85.60	997	19	10.16	750	15	10.45	636	18	9.82	121
14	85.60	995	24	10.15	732	20	10.43	611	22	9.88	120
15	85.60	997	29	10.24	772	25	10.50	633	25	10.12	164
16	85.60	993	Approx. Monthly Mean		737	30	10.57	654	29	10.19	172
17	85.60	993	Normal Mean 1912-1933		718	Approx. Monthly Mean			Approx. Monthly Mean		126
18	85.59	996	<b>Khartoum (Blue Nile)</b>			Normal Mean 1912-1933			Normal Mean 1928-1933		208
19	85.60	995	1	10.04	113	<b>Hillet Doleib (River Sobât)</b>			<b>Akobo (River Pibor)</b>		
20	85.60	994	5	10.02	143	4	11.53	111	5	10.34	1
21	85.68	1,050	12	10.24	186	9	11.58	132	10	10.56	1
22	85.70	1,050	16	10.15	171	14	11.56	109	15	10.57	2
23	85.70	1,050	22	10.15	173	19	11.53	107	20	10.74	2
24	85.70	1,050	27	10.23	175	24	11.60	121	25	10.88	3
25	85.70	1,050	Approx. Monthly Mean		166	30	11.68	165	31	11.20	2
26	85.71	1,050	Normal Mean 1912-1933		188	Approx. Monthly Mean			Approx. Monthly Mean		2
27	85.71	1,050	<b>Hillet Sherif (Blue Nile)</b> (Old Sennar Gauge)			Normal Mean 1912-1933			Normal Mean 1929-1933		2
28	85.71	1,050	2	10.11	240	<b>Nasser (River Sobât)</b>			<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)		
29	85.72	1,050	5	10.05	214	1	5.75	137	8	11.69	160
30	85.70	1,050	7	9.98	210	2	5.70	131	18	11.70	162
31	85.70	1,050	9	9.92	196	3	5.66	125	28	11.72	168
Approx. Monthly Mean		973	12	9.89	185	5	5.66	155	Approx. Monthly Mean		163
Normal Mean 1912-1933		797	14	9.85	171	6	5.96	161	Normal Mean 1912-1933		125
<b>Kajnarty (Main Nile)</b>			16	9.79	170	7	6.01	161	<b>Abu Tong (White Nile)</b> (Tonga Gauge)		
1	131.52	566	19	9.9	153	8	5.96	160	8	11.98	332
2	131.54	590	21	10.08	225	9	5.85	143	18	11.99	335
3	131.57	603	23	9.96	195	10	5.74	132	28	12.00	331
5	131.57	595	26	9.75	148	12	5.55	113	Approx. Monthly Mean		333
6	131.59	597	28	9.70	134	13	5.53	112	Normal Mean 1923-1933		296
7	131.59	602	30	9.88	172	14	5.50	112	<b>Lake No (White Nile)</b>		
8	131.60	601	Approx. Monthly Mean		186	15	5.51	112	7	13.65	334
9	131.61	604	Normal Mean 1912-1933		239	16	5.58	120	17	13.66	306
10	131.61	600	<b>Roseires (Blue Nile)</b>			17	5.75	132	27	13.70	347
12	131.60	592	2	11.46	117	19	5.82	146	Approx. Monthly Mean		329
13	131.58	584	4	11.48	126	20	5.88	152	Normal Mean 1923-1933		306
14	131.60	606	6	11.66	152	21	5.92	159			
15	131.62	613	8	11.72	156	22	5.88	151			
16	131.62	606	10	11.55	135	23	5.83	149			
17	131.62	601	12	11.44	117	24	5.78	138			
20	131.64	607	14	11.54	135	26	6.20	195			
21	131.65	613									
22	131.69	620									
23	131.75	652									
24	131.79	688									
26	131.87	700									
27	131.87	692									

**Discharges of the Nile during May, 1934 (continued)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Ghazal</b>			<b>Giggin (Bahr el Jebel)</b>			<b>Mongalla (Bahr el Jebel)</b>		
(At Mouth)			(Western Channel)			1	12.29	1,090
(Suddite Factory Gauge)			3	29.11	210	6	12.45	1,140
7	13.76	21	Approx. Monthly Mean 196			12	11.80	837
17	13.76	16	Normal Mean 1931-1933 223			16	11.88	863
27	13.78	22				21	11.70	784
Approx. Monthly Mean 20						26	12.19	1,010
Normal Mean 1923-1933 11						Approx. Monthly Mean 938		
			<b>Gemeiza (Bahr el Jebel)</b>			Normal Mean 1912-1933 870		
			(Eastern Channel)					
			2	428.85	657			
			Approx. Monthly Mean 645					
			Normal Mean 1931-1933 666					
<b>Bahr el Jebel (Kilo. 3)</b>								
(Lake No Gauge)								
7	13.65	327						
17	13.66	331						
27	13.70	335						
Approx. Monthly Mean 331								
Normal Mean 1923-1933 296								
			<b>Terrakekka (Bahr el Jebel)</b>					
			1	13.69	972			
			Approx. Monthly Mean 890					
			Normal Mean 1931-1933 931					

**Occasional Discharges**

*Observed by the Irrigation Department.*

DATE.	RIVER.	SITE.	GAUGE.		DISCH. m <sup>3</sup> . per
			Reading.	Site.	
14-5-1934	Khor Fullus	Mouth ... ..	M. 11.56	H. Doleih	

P. PHILLIPS,  
*Director, Hydrological Service.*

# Ministry of Public Works, Egypt—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JULY, 1934

### The Weather

The weather of July was much damper than usual. Several days especially during the last week were both hot and humid. The maximum temperature registered in Cairo was 40°C. on the 25th and 26th being 5°C. above normal, while at Siwa Oasis, the thermometer rose to 46°C. (115°F.) on both days which is 8°C. above normal.

The summer type of pressure distribution was maintained throughout the month, except on the 4th when a shallow depression formed over Cyprus causing cool fresh north-westerly winds on the coast, with slight rain at Port Said. It is interesting to note that rain has never fallen during the month of July at Port Said since observations began there in 1887.

The mean atmospheric pressure was everywhere below the normal except over the Mediterranean coast, while the temperature was above the average in Middle Egypt and South Sudan, and below the average elsewhere, the departures from normal are however very small. The mean relative humidity at Helwan was 51% compared with a normal of 46%.

The Sudan rainfall was in excess in Central and South Sudan and deficient elsewhere.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR JULY 1934

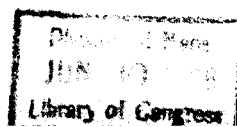
DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX.+MIN./2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1009.6	+0.4	29.5	−0.1	22.5	+0.2	26.0	0.0	0	0
II. Middle Egypt ... ..	1009.2	−0.2	35.5	+0.1	21.1	+0.5	28.3	+0.3	0	0
III. Upper Egypt ... ..	1007.2	−0.6	39.9	−0.1	23.0	−0.9	31.4	−0.5	0	0
IV. North Sudan ... ..	1008.4	−0.5	39.0	−0.2	24.9	−0.3	31.9	−0.2	18	−25
V. Red Sea * ... ..	1005.4	0.0	40.6	−0.3	28.0	0.0	34.3	−0.2	6	0
VI. Central Sudan ... ..	1010.4	−0.8	33.0	−1.3	21.6	−0.2	27.3	−0.8	162	+40
VII. South Sudan ... ..	1011.9	−0.2	31.6	+0.1	21.4	+0.5	26.5	+0.3	187	+16

\*Port Sudan Only.

RAINFALL DATA FOR JULY 1934

STATION	1934	Diff. from Normal	STATION	1934	Diff. from Normal
	m/m.	m/m.		m/m.	m/m.
Juba ... ..	138	— 4	Adis Abāba ... ..	239	— 40
Wau ... ..	202	+ 14	Roseires ... ..	197	+ 15
Malakāl ... ..	220	+ 39	Wād Medani ... ..	150	+ 30
El Obeid ... ..	297	+ 198	Atbara ... ..	7	— 13
El Fasher ... ..	61	— 52	Kassala ... ..	29	— 64
Khartoum ... ..	35	— 15	Port Sudan ... ..	6	0

MAHMOUD HAMED MOHAMMAD,  
Acting Director, Meteorological Service.



## State of the River

Lake Albert has just started to rise. Its level is still about 20 cms. above the normal, but it fell about 60 cms. during the year from the beginning of August 1933.

The Bahr el Jebel at Juba experienced two violent flushes on the 8th and 10th of July, but these died away immediately and for the remainder of the month the levels were nearly steady.

The discharge of the White Nile upstream of the River Sobat remained nearly steady and was about 16% above the normal.

The River Sobat rose steadily and more rapidly than usual throughout the month. Its level was well below the normal at the beginning of the month and equal to the normal at the end.

The White Nile at Malakal rose steadily and at about the normal rate. Its level was above normal throughout the month.

The Blue Nile at Roseires rose very rapidly with some slight fluctuations until the 15th July. After that date the levels fluctuated some what violently but there was no further general rise until the end of the month when the level was practically normal.

The River Atbara also rose very rapidly until the 15th but after this it fell again fairly rapidly with the usual violent fluctuations. At the end of the month the level was well below normal.

The Main Nile at Wadi Halfa rose steadily and rapidly throughout the month with the exception of a few small fluctuations. At the end of the month the level was about 160 cms. above the normal. The excessive rate of rise will not be maintained however and the level during the next 10 or 15 days will remain fairly steady.

The general conclusion is that the rise of the river during July has been very satisfactory.

The differences of the mean levels in July 1934 from those of July 1933 and from the normal 1906-30 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	July 1934 minus July 1933	July 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0·09	+ 0·03
Nasser ... ..	+ 0·58	— 0·15 †
Malakal ... ..	+ 0·14	+ 0·20
Roseires ... ..	+ 1·37	+ 0·91
Khartoum ... ..	+ 1·22	+ 0·52
Khashm el Girba ... ..	+ 0·91	+ 0·35
Kajmarti ... ..	+ 2·18	+ 1·27
Wadi Halfa ... ..	+ 1·43	+ 0·87

† Nasser normal is for 1922-1930 only.

## Discharges of the Nile during June, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Kajnarty (contd.)</b>			<b>Wad el Aies (Blue Nile)</b>			<b>Nasser (River Sobât)</b>		
5	72.57	1030	26	132.12	791	20	7.03	873	2	6.50	230
12	72.62	1050	27	132.14	797	22	6.75	701	3	6.48	226
19	72.90	1200	28	132.22	824	24	6.41	582	4	6.61	241
26	73.04	1260	30	132.47	891	26	7.28	1020	5	6.72	257
Approx. Monthly Mean	1140		Approx. Monthly Mean	701		28	6.86	760	6	6.87	278
			Normal Mean 1912-1933	732		30	6.99	827	13	7.23	328†
<b>Aswân</b> (Measured by Sluices) (Aswân D.S. Gauge.)			<b>River Athara (Kilo. 3)</b>			Approx. Monthly Mean —			Approx. Monthly Mean 351		
1	85.82	1120	29	11.18	363	Normal Mean 1912-1933 658			Normal Mean 1929-1933 401		
2	85.81	1130	Approx. Monthly Mean	—		<b>Roseires (Blue Nile)</b>			<b>Gambeila (River Baro)</b>		
3	85.82	1120	Normal Mean 1912-1933	32		1	12.22	270	1	10.30	194
4	85.83	1120	<b>Hassanab (Main Nile)</b>			3	12.16	254	5	10.50	216
5	85.83	1120	3	10.68	715	5	12.70	386	8	10.78	267
6	85.83	1120	6	10.63	709	7	13.02	474	13	11.20	373
7	85.82	1120	12	10.80	851	9	12.81	420	16	11.56	451
8	85.82	1120	16	10.88	912	11	12.97	481	19	11.21	372
9	85.82	1120	23	11.34	1180	13	13.40	682	22	11.52	435
10	85.82	1120	27	11.86	1530	18	13.72	778	Approx. Monthly Mean	—	
11	85.86	1140	Approx. Monthly Mean	988		Approx. Monthly Mean 687			Normal Mean 1928-1933 436		
12	85.86	1140	Normal Mean 1912-1933	962		Normal Mean 1912-1933 658			<b>River Gila (At Mouth)</b> (Gila Gauge)		
13	85.86	1140	<b>Tamaniât (Main Nile)</b>			<b>Mogren (White Nile)</b>			12	7.01	49
14	85.85	1140	4	10.11	711	3	10.36	574	22	7.43	50
15	85.86	1140	8	10.31	876	7	10.59	611	Approx. Monthly Mean	—	
16	86.06	1270	11	10.59	922	13	10.75	673	Normal Mean 1929-1933	69	
17	86.11	1300	18	10.70	1080	17	10.98	626	<b>River Pibor</b> (U.S. Gila Junction) (Gila Gauge)		
18	86.14	1310	25	11.39	1549	24	11.73	665	12	7.5	
19	86.14	1310	Approx. Monthly Mean	1100		28	11.61	722	22	7.5	
20	86.18	1330	Normal Mean 1912-1933	1100		Approx. Monthly Mean 652			Approx. Monthly Mean —		
21	86.16	1330	<b>Khartoum (Blue Nile)</b>			Normal Mean 1912-1933 625			Normal Mean 1929-1933 8		
22	86.16	1330	2	10.06	152	<b>Malakâl (White Nile)</b>			<b>Akobo (River Pibor)</b>		
24	86.22	1370	6	10.33	215	5	10.72	670	5	11.35	3
25	86.22	1370	12	10.49	256	10	10.84	735	10	11.54	3
26	86.26	1400	15	10.82	410	15	10.91	769	15	11.72	6
27	86.28	1400	23	11.76	1080	20	11.05	795	20	11.94	10
28	86.28	1400	27	11.58	932	25	11.16	853	25	12.20	8
29	86.30	1400	Approx. Monthly Mean	483		27	11.20	882	30	12.94	16
30	86.31	1400	Normal Mean 1912-1933	487		28	11.22	866	Approx. Monthly Mean	7	
Approx. Monthly Mean	1240		<b>Hillet Sherif (Blue Nile)</b> (Old Sennar Gauge)			29	11.23	844	Normal Mean 1929-1933	7	
Normal Mean 1912-1933	1020		2	10.19	259	30	11.25	876	<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)		
<b>Kajnarty (Main Nile)</b>			4	10.20	259	<b>Hillet Doleib (River Sobât)</b>			8	11.81	164
2	131.78	651	6	10.16	256	4	11.85	213	18	11.95	169
3	131.68	630	9	10.46	350	9	11.97	255	28	12.06	169
4	131.75	646	11	10.65	431	11	12.11	281	Approx. Monthly Mean	167	
5	131.73	643	13	10.84	477	19	12.24	320	Normal Mean 1912-1933	123	
6	131.75	650	17	11.30	655	24	12.36	351			
7	131.77	654	23	11.28	797*	29	12.46	391			
9	131.86	658	25	10.95	625*	Approx. Monthly Mean 295					
10	131.90	684	27	11.54	959*	Normal Mean 1912-1933 746					
11	131.90	688	30	11.38	833*						
13	131.83	670	Approx. Monthly Mean	583							
14	131.80	670	Normal Mean 1912-1933	589							
15	131.78	665									
16	131.76	657									
17	131.74	640									
18	131.75	646									
19	131.76	661									
20	131.79	675									
21	131.87	694									
23	132.00	750									
24	132.03	763									
25	132.07	769									

\* Site transferred to Sennar.

† Site transferred to River Sobat Head.

**Discharges of the Nile during June, 1934 (continued)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>Gigging (Bahr el Jebel)</b> (Western Channel)			<b>Nimulé (Bahr el Jebel)</b>		
8	12.10	322	3	28.85	178	May 14	10.46	872
18	12.20	325				15	10.42	831
28	12.28	316				15	10.41	828
Approx. Monthly Mean		322	Approx. Monthly Mean		197	16	10.39	817
Normal Mean 1923-1933		292	Normal Mean 1931-1933		230	16	10.38	799
<b>Lake No (White Nile)</b>			<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)			17	10.37	802
7	13.70	331	2	28.68	630	17	10.37	785
17	13.74	343				18	10.35	799
27	13.78	345	Approx. Monthly Mean		661	18	10.35	782
Approx. Monthly Mean		340	Normal Mean 1931-1933		675	19	10.33	787
Normal Mean 1923-1933		307				19	10.33	797
<b>Bahr el Ghazal</b> (At Mouth)			<b>Terrakekka (Bahr el Jebel)</b>			20	10.33	769
(Suddite Factory Gauge)			1	13.11	803	20	10.33	780
7	13.80	12	Approx. Monthly Mean		861	21	10.32	755
17	13.83	17	Normal Mean 1931-1933		903	23	10.30	766
27	13.85	25				23	10.30	762
Approx. Monthly Mean		18	<b>Mongalla (Bahr el Jebel)</b>			24	10.30	769
Normal Mean 1923-1933		9	1	11.66	795	24	10.30	775
<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			6	11.59	775	25	10.32	775
7	13.70	331	11	11.66	799	25	10.32	794
17	13.74	333	16	11.80	881	26	10.32	785
27	13.78	340	21	11.64	777	26	10.32	782
Approx. Monthly Mean		334	26	11.77	859	27	10.34	780
Normal Mean 1923-1933		300	Approx. Monthly Mean		821	27	10.37	830
			Normal Mean 1912-1933		843	28	10.35	792
						28	10.36	822
						Approx. Monthly Mean		—
						Normal Mean 1914-1933		714

**Occasional Discharges**

*Observed by the Irrigation Department.*

DATE.	RIVER.	SITE.	GAUGE.		DISCH. m <sup>3</sup> p.s.
			Reading.	Site.	
			M.		
		<b>River Sobât and Tributaries</b>			
15-6-1934	Sobât	D.S. Khor Nyanding ... ..	9.89	Nyanding Mouth	309
25-6-1934	"	" " " " " " " " " " " "	10.52	"	402
15-6-1934	Khor Nyanding	Mouth ... ..	9.89	"	3
25-6-1934	" "	" ... ..	10.52	"	3
11-6-1934	" Twalor	" ... ..	7.28	Nasser	2
24-6-1934	" "	" ... ..	7.98	"	4
23-6-1934	" Wakau	" ... ..	7.95	"	3
22-6-1934	" Macap	Head ... ..	7.71	Mokwai	3
11-6-1934	" Geni	" ... ..	11.59	Akobo	2
21-6-1934	" "	" ... ..	12.00	"	1

P. PHILLIPS,  
*Director, Hydrological Service.*



# Ministry of Public Works, Egypt—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR AUGUST, 1934

### The Weather

The weather during August was of the usual summer type, except that during the period from the 5th to 14th the temperature in Cairo was generally two to four degrees above normal, and the nights were also warm. The highest temperature reached in Cairo was 40° C. (being 5° C. above normal). This was on the 11th. On that day the weather was extremely hot in Upper Egypt, the thermometer rose at Assiut to 45° C. (113° F.), i.e. 9° C. above normal. This is the highest temperature ever recorded at Assiut during the month of August since observations began there in 1900. At Aswân, the maximum temperature remained at or above 45° C. (4° C. above normal) for five successive days commencing the 10th.

A spell of relatively cool weather then set in on the beginning of the third week and lasted until the 27th. On the morning of the 18th light rain fell at Alexandria. (Rain has not fallen at Alexandria during the month of August since 1916).

Towards the end of the month, the temperature again rose to 2° or 3° C. above normal.

For the month as a whole, the mean atmospheric pressure was above the average on the Mediterranean coast, North and South Sudan, and the Red Sea, while the temperature was above normal in all districts except the Mediterranean Coast and Central Sudan.

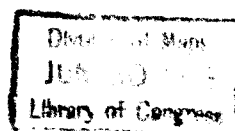
The Air on the coast was much damper than usual, thus at Alexandria, the mean relative humidity was 5 per cent above normal.

The Sudan rainfall was above normal in North and South Sudan and below normal elsewhere. Phenomenal rain fell at Kassala on the 27th, the amount collected in 24 hours was 107 millimetres which is the highest on record for one day's rainfall for that station. This has been confirmed by telegram but full details are not yet available.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR AUGUST 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX.+MIN. 2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1010.3	+0.6	30.4	+0.1	22.8	—0.1	26.6	0.0	0	0
II. Middle Egypt ...	1009.8	—0.1	35.5	+0.7	21.4	+0.5	28.4	+0.6	0	0
III. Upper Egypt ...	1007.9	—0.3	40.3	+0.9	23.4	—0.7	31.8	+0.1	0	0
IV. North Sudan ...	1009.6	+0.2	38.3	+0.3	24.7	0.0	31.5	+0.2	89	+24
V. Red Sea * ...	1006.5	+0.6	41.2	+0.6	29.7	+1.2	35.4	+0.9	0	—4
VI. Central Sudan ...	1011.1	—0.2	32.3	—0.9	21.6	+0.6	27.0	—0.2	139	—6
VII. South Sudan ...	1012.4	+0.3	31.1	—0.3	21.3	+0.5	26.2	+0.1	215	+35

\*Port Sudan only.



### RAINFALL DATA FOR AUGUST 1934

STATION	1934	Diff. from Normal	STATION	1934	Diff. from Normal
	m/m.	m/m.		m/m.	m/m.
Juba ... ..	208	+ 83	Adis Ababa ... ..	231	— 68
Wau ... ..	250	+ 37	Roseires ... ..	178	— 33
Malakāl ... ..	186	— 14	Wād Medani ... ..	105	— 41
El Obeid ... ..	129	+ 13	Atbara ... ..	50	+ 10
El Fasher ... ..	179	+ 43	Kassala ... ..	235	+ 107
Khartoum .. ..	71	— 2	Port Sudan ... ..	0	— 4

MAHMOUD HAMID MOHAMMAD,  
*Acting Director, Meteorological Service.*

### State of the River

Lake Albert at Butiaba rose 13 centimetres during the month. Its level on September 1, 1934, was 25 centimetres above the normal but 47 centimetres below that of the corresponding day of last year.

The Bahr el Jebel at Juba rose with fluctuations and from the 8th to the end of the month was above both the normal and last year's levels.

The River Sobat at Nasser rose faster than normally. The level which was 2 centimetres below normal at the beginning of the month was 28 centimetres above it at the end of the month. It was much above last year for the whole month.

The White Nile at Malakal rose at normal rate. The levels throughout the month were above both the normal and last year's.

The Blue Nile at Roseires rose very rapidly with sharp fluctuations until the 25th when the level reached 22.04 metres (2.86 m. above the normal) then fell sharply thereafter. The maximum level is the highest recorded since 1908. At Khartoum the Blue Nile rose steadily and rapidly. The levels were much above both the normal and last year's.

The River Atbara at Khashm el Girba rose rapidly with the sharp fluctuations until the 23rd when the level reached 16.90 m. (2.70 m. above normal) then fell faster than normally.

The Main Nile at Wadi Halfa was nearly steady during the first and third weeks but rose at a much faster than normal rate during the rest of the month. The gauge reading on the 31st was 8.95 metres which is the highest recorded since 1894 when the maximum was 8.96 metres.

The feature of the month has been the phenomenal rise of the Blue Nile and the River Atbara which has resulted in very high levels being reached in Egypt by the end of the month.

The differences of the mean levels in August 1934 from those of August 1933 and from the normal 1906-1930 were:—

STATION	MEAN DIFFERENCES OF LEVELS	
	August 1934 minus August 1933	August 1934 minus Normal
	Metres	Metres
Juba ... ..	+ 0.20	+ 0.18
Nasser ... ..	+ 0.49	+ 0.12 †
Malakal ... ..	— 0.23	+ 0.20
Roseires ... ..	+ 1.41	+ 1.27
Khartoum ... ..	+ 0.77	+ 0.43
Khashm el Girba ... ..	+ 1.15	+ 0.79
Wadi Halfa ... ..	+ 1.71	+ 0.84

† Nasser normal is for 1922-1930 only.

**By Transfer**  
**U. S. Weather Bureau**  
**JUN 20 1938**

## Discharges of the Nile during July, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>River Athara (Kilo. 3)</b>			<b>Wad el Aies (Blue Nile)</b>			<b>River Sobat (At Head)</b> (Nasser Gauge)		
3	73.22	1380	3	11.20	573	2	6.95	845	3	8.48	511
10	73.44	1520	7	10.96	386	4	7.34	1010	13	8.92	584
17	73.80	1700	12	11.46	750	6	7.35	1050	23	9.24	629
24	74.81	2680	17	12.42	1760	7	8.20	1570			
31	77.02	5090	22	12.62	1230	8	8.02	1130			
Approx. Monthly Mean		2250	29	12.78	1190	9	8.02	1440	Approx. Monthly Mean		589
			Approx. Monthly Mean		1020	10	8.83	1990	Normal Mean 1929-1933		559
			Normal Mean 1912-1933		613	11	9.24	2290			
<b>Aswân</b> (Measured by Sluices) (Aswân D.S. Gauge.)			<b>Hassanab (Main Nile)</b>			13	9.31	2460	<b>Gambeila (River Baro)</b>		
1	86.33	1450	2	12.12	1550	14	9.37	2530	June 26	11.66	463
2	86.40	1460	6	12.01	1630	15	10.52	3850	29	12.02	568
3	86.44	1480	11	12.44	1750	17	10.88	4140	Approx. Monthly Mean		370
4	86.43	1480	15	13.07	2330	19	10.26	3430	Normal Mean 1928-1933		496
5	86.49	1520	21	14.34	4280	21	10.98	4020			
6	86.50	1530	28	14.75	4860	23	11.26	4200	July 3	12.03	554
7	86.50	1530	Approx. Monthly Mean		3040	25	10.94	2630	7	12.50	746
8	86.50	1530	Normal Mean 1912-1933		2250	27	11.28	4030	11	13.32	1020
9	86.65	1640	<b>Tamaniât (Main Nile)</b>			29	10.90	3740	14	13.52	1090
10	86.82	1770	4	11.46	1730	31	11.33	4090	17	13.02	934
11	86.90	1830	8	11.50	1820	Approx. Monthly Mean		2840	20	13.21	1010
12	86.91	1840	12	11.94	1970	Normal Mean 1912-1933		2360	24	13.44	1070
13	86.90	1830	17	13.04	3180	<b>Mogren (White Nile)</b>			28	13.36	1020
14	86.91	1840	23	13.78	3950	3	11.75	774	31	13.07	899
15	86.94	1850	30	14.10	4740	7	11.86	766	Approx. Monthly Mean		913
16	86.94	1850	Approx. Monthly Mean		3040	11	12.24	729	Normal Mean 1928-1933		742
17	86.94	1850	Normal Mean 1912-1933		2480	16	13.22	616			
18	86.94	1850	<b>Khartoum (Blue Nile)</b>			22	14.00	857	<b>River Gila (At Mouth)</b> (Gila Gauge)		
19	86.94	1850	2	11.68	972	29	14.33	893	2	8.45	56
20	87.24	2090	6	11.76	1030	Approx. Monthly Mean		774	12	9.35	53
21	87.42	2260	10	12.10	1200	Normal Mean 1912-1933		584	22	9.81	47
22	87.64	2440	15	13.19	2660	<b>Malakâl (White Nile)</b>			Approx. Monthly Mean		46
23	87.92	2680	21	14.09	3730	1	11.26	872	Normal Mean 1929-1933		76
24	88.22	2950	28	14.42	4230	2	11.29	875			
25	89.15	3900	Approx. Monthly Mean		2620	3	11.32	883	<b>River Pibor</b> (U.S. Gila Junction) (Gila Gauge)		
26	89.44	4150	Normal Mean 1912-1933		1940	4	11.34	879	2	8.45	33
27	89.49	4210	<b>Sennar (Blue Nile)</b>			5	11.37	910	12	9.35	58
28	89.47	4120	2	6.11	846	6	11.38	929	22	9.81	82
29	89.57	4210	4	6.40	1090	7	11.39	920	Approx. Monthly Mean		71
30	89.89	4660	7	6.54	1270	8	11.40	929	Normal Mean 1929-1933		20
31	90.22	5120	9	7.00	1490	9	11.43	953			
Approx. Monthly Mean		2410	11	7.94	2290	10	11.44	927	<b>Akobo (River Pibor)</b>		
Normal Mean 1912-1933		1710	14	8.19	2440	11	11.46	948	5	13.41	32
<b>Kajnarty (Main Nile)</b>			17	9.73	3710	13	11.50	982	10	14.14	52
1	132.57	937	19	9.10	3390	14	11.51	973	15	14.50	67
2	132.67	957	21	9.45	3600	16	11.55	995	20	14.68	89
4	133.34	1200	23	9.72	4160	20	11.57	967	25	15.00	110
5	133.80	1380	25	9.72	3750	25	11.66	996	30	15.32	138
6	134.15	1560	28	9.79	3700	30	11.72	1030	Approx. Monthly Mean		75
8	134.56	1810	Approx. Monthly Mean		2690	Approx. Monthly Mean		964	Normal Mean 1929-1933		24
9	134.75	1910	Normal Mean 1912-1933		2150	Normal Mean 1912-1933		912			
10	134.97	2000	<b>Gezira Main Canal</b> (Kilo 1.3)			<b>Hillet Doleib (River Sobât)</b>					
11	135.08	2070	21	15.39	41	4	12.61	420			
12	135.05	2050	Approx. Monthly Mean		—	9	12.70	450			
15	134.80	1900	Normal Mean 1925-1933		22	14	12.82	469			
16	134.81	1890				19	12.90	492			
17	134.98	1950				24	12.88	509			
Approx. Monthly Mean		—				29	12.95	518			
Normal Mean 1912-1933		1840				Approx. Monthly Mean		474			
						Normal Mean 1912-1933		492			

*Note.*—For stations from Sennar to Kajarty inclusive, the normal discharges of the natural river have been computed and from these have been deducted the effects of a standard regulation at Sennar.

**Discharges of the Nile during July, 1934 (continued)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			<b>Bahr el Ghazal</b> (At Mouth) (Suddite Factory Gauge)			<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)		
8	12.18	179	7	13.15	41	2	28.86	698
18	12.28	176	17	13.91	20	<b>Approx. Monthly Mean</b>		692
28	12.37	174	27	13.96	28	<b>Normal Mean 1931-1933</b>		712
<b>Approx. Monthly Mean</b>		176	<b>Approx. Monthly Mean</b>		29			
<b>Normal Mean 1912-1933</b>		131	<b>Normal Mean 1923-1933</b>		13			
<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			<b>Terrakekka (Bahr el Jebel)</b>		
8	12.40	312	7	13.86	311	1	13.40	924
18	12.50	324	17	13.85	319	<b>Approx. Monthly Mean</b>		924
28	12.53	325	27	13.88	318	<b>Normal Mean 1931-1933</b>		1030
<b>Approx. Monthly Mean</b>		320	<b>Approx. Monthly Mean</b>		317			
<b>Normal Mean 1923-1933</b>		291	<b>Normal Mean 1923-1933</b>		301			
<b>Lake No (White Nile)</b>			<b>Gigging (Bahr el Jebel)</b> (Western Channel)			<b>Mongalla (Bahr el Jebel)</b>		
7	13.86	365	3	29.08	223	1	11.90	893
17	13.85	337	<b>Approx. Monthly Mean</b>		220	6	12.18	1020
27	13.88	347	<b>Normal Mean 1931-1933</b>		246	11	12.27	1070
<b>Approx. Monthly Mean</b>		349				16	11.86	864
<b>Normal Mean 1923-1933</b>		312				21	11.84	869
						26	11.82	835
						<b>Approx. Monthly Mean</b>		924
						<b>Normal Mean 1912-1933</b>		913

# Occasional Discharges

*Observed by the Irrigation Department.*

DATE.	RIVER.	SITE.	GAUGE.		DISCH. m <sup>3</sup> . p.s.
			Reading.	Site.	
			M.		
		<b>River Sobât and Tributaries</b>			
5-7-1934	Sobât	D.S. Khor Nyanding Junction ... ..	10.97	Nyanding Mouth	460
5-7-1934	"	" " " " ... ..	11.30	"	522
5-7-1934	"	" " " " ... ..	11.55	"	556
5-7-1934	Khor Nyanding	Mouth ... ..	10.97	"	— 3
5-7-1934	" "	" ... ..	11.30	"	— 3
25-7-1934	" "	" ... ..	11.55	"	— 3
4-7-1934	" Twalor	" ... ..	8.55	Nasser	— 5
14-7-1934	" "	" ... ..	8.94	"	— 6
21-7-1934	" "	" ... ..	9.26	"	— 5
3-7-1934	" Wakau	" ... ..	8.49	"	— 6
13-7-1934	" "	" ... ..	8.92	"	— 9
23-7-1934	" "	" ... ..	9.24	"	— 17
2-7-1934	" Macap	Head ... ..	8.35	Mokwai	5
1-7-1934	" Geni	" ... ..	13.05	Akobo	5
11-7-1934	" "	" ... ..	14.24	"	4
21-7-1934	" "	" ... ..	14.74	"	3
11-7-1934	Akobo	Mouth ... ..	14.24	"	17
21-7-1934	"	" ... ..	14.74	"	10
1-7-1934	Agwei	" ... ..	—	—	11
31-7-1934	"	About 5 Kms. from Mouth ... ..	—	—	62

*Correction.*—The last discharge of Hillet Doleib published in June Monthly Report was observed on May 29th and not on May 30th.

P. PHILLIPS,  
*Director, Hydrological Service.*

# Ministry of Public Works, Egypt—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR SEPTEMBER, 1934

### The Weather

The weather of September was as usual free from any large disturbances. Temperature was however variable. The first five days were rather warmer than usual. The maximum temperature registered at Helwan on the 4th was 39° C. being 6° C. above normal. After this a cool spell set in and lasted until the end of the second week. On the 15th a shallow depression developed over Cyprus. Cool air from the north-west traversed the coast and a minor thunderstorm took place at Salum.

Settled conditions then prevailed until the 28th; on that day the pressure became relatively low over the northern Red Sea, light rain fell at Tor and Port Said.

Throughout Egypt, the pressure was above normal, and in the Sudan except in the Red Sea it was below normal, but these deviations were, as usual in September, very small.

The temperature was slightly above normal everywhere except in Upper Egypt and North Sudan.

The Sudan rainfall was above normal in North and Central Sudan and below normal elsewhere.

(Details of the phenomenally heavy rainfall at Kassala-107 millimetres on August 27th have been received. The storm lasted from 6.30 to 8.30 in the evening and a number of houses collapsed.)

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR SEPTEMBER 1934

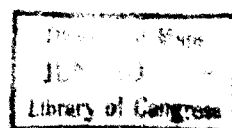
DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX.+MIN. 2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1013.8	+0.6	29.7	+0.2	22.1	+0.2	25.9	+0.2	0	0
II. Middle Egypt ... ..	1013.5	+0.3	32.2	+0.1	19.6	+0.5	25.9	+0.3	0	0
III. Upper Egypt ... ..	1011.1	+0.3	36.8	—0.4	21.5	—0.8	29.2	—0.6	0	0
IV. North Sudan ... ..	1008.8	—0.5	40.1	+0.4	24.7	—0.3	32.4	0.0	34	+14
V. Red Sea * ... ..	1008.8	+0.6	38.7	+0.9	26.5	+0.3	32.6	+0.6	0	0
VI. Central Sudan ... ..	1010.2	—0.7	35.1	+0.2	21.5	+0.4	28.3	+0.3	78	+ 4
VII. South Sudan ... ..	1010.8	—0.6	33.2	+0.5	21.9	+0.9	27.6	+0.7	110	—28

\*Port Sudan only.

RAINFALL DATA FOR SEPTEMBER 1934

STATION	1934	Diff. from Normal	STATION	1934	Diff. from Normal
	m/m.	m/m.		m/m.	m/m.
Juba ... ..	54	— 52	Adis Abâba ... ..	193	+ 2
Wau ... ..	163	0	Roseires ... ..	193	+ 41
Malakâl ... ..	112	— 32	Wâd Medani ... ..	32	— 33
El Obeid ... ..	118	+ 41	Atbara ... ..	0	— 6
El Fasher ... ..	5	— 25	Kassala ... ..	83	+ 27
Khartoum ... ..	55	+ 37	Port Sudan ... ..	0	0

MAHMOUD HAMID MOHAMMAD,  
Acting Director, Meteorological Service.



## State of the River

Lake Albert at Butiaba fell four centimetres during the month. Its level on October 1st, 1934 was 14 centimetres above the normal but 59 centimetres below that of the corresponding day of last year.

With the exception of the flush on the 6th the Bahr el Jebel at Juba fell throughout the month. The levels were above normal during the first eight days and below them thereafter.

The River Sobat at Nasser rose steadily at a little slower than normal rate. The levels were above both the normal and those of last year.

The White Nile at Malakal rose at normal rate. The levels were above normal, but below those of last year.

The Blue Nile at Roseires continued its rapid fall until the 10th. On this date it had fallen nearly four metres in sixteen days. This was a phenomenal and very welcome fall from the very high level recorded on the 25th August. After the 10th September the levels rose with fluctuations until the 22nd when the gauge reading was 19.52 metres 1.45 metres above the normal. After the 22nd the level fell again with some fluctuations until the end of the month but remained considerably above the normal.

At Khartoum the Blue Nile reached its maximum level on September 2nd when the gauge reading was 16.52 metres, 87 centimetres above the normal. After this it fell rapidly until the 14th, remained nearly steady until the 26th and then fell again until the end of the month. The level was 22 centimetres above the normal on September 30th.

The River Atbara continued its rapid fall at Khashm el Girba until September 9th. On this date it had fallen more than 3½ metres in seventeen days. After September 9th the levels fluctuated but on the average still continued to fall though more slowly until the end of the month.

The Main Nile at Wadi Halfa continued to rise till the 4th when it reached its peak 9.07 metres, 135 centimetres, above normal, which is the highest recorded since the erection of the gauge (1890). It then fell rapidly until the 27th and rose again a little till the end of the month. The levels were above normal throughout the month and were on the average 28 centimetres above last year's levels.

The most conspicuous feature of the levels of the river during September was the extremely rapid fall of both the Blue Nile and the Atbara during the first half of the month. This fall was of very great value as a continuance of the very high levels reached on August 24th and 25th would have produced very dangerously high levels in Egypt. The rapid fall was checked during the second half of September but no very high levels were reached.

It is interesting that at Wadi Halfa the maximum level was the greatest ever recorded on the gauge since it was established in 1890. It is probable that the maximum discharge in 1892 was greater than the maximum in this year and the cause of the higher level this year is probably the formation of sand banks at the upstream end of the Aswan Reservoir.

The Differences of the mean levels in September 1934 from those of September 1933 and from the normal 1906-1930 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	Sept. 1934 minus Sept. 1933	Sept. 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0.53	— 0.16
Nasser ... ..	+ 0.56	+ 0.27 †
Malakal ... ..	— 0.33	+ 0.24
Roseires ... ..	— 0.09	+ 0.29
Khartoum ... ..	+ 0.09	+ 0.28
Khashm el Girba * ... ..	— 0.18	— 0.07
Wadi Halfa ... ..	+ 0.28	+ 0.70

† Nasser normal is for 1922-1930 only.

By Transfer  
U. S. Weather Bureau

JUN 20 1938

## Discharges of the Nile during August, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Tamaniât (Main Nile)</b>			<b>Wad el Aies (contd.)</b>			<b>River Gila (At Mouth)</b> (Gila Gauge)		
7	77.40	5430	5	14.36	5240	22	13.74	7730	2	10.03	15
14	77.70	5720	10	14.92	6120	24	13.91	7750	12	10.32	18
21	79.53	9780	14	15.43	7210	26	14.35	8350	22	10.50	44
28	79.64	9600	20	15.75	7850	28	14.28	8120			
Approx. Monthly Mean	7450		26	16.01	8420	30	13.97	7610	Approx. Monthly Mean	—	24
<b>Aswân</b> (Measured by Sluices) (Aswân D.S. Gauge.)			28	16.20	8470	Approx. Monthly Mean	6700		Normal Mean 1929-1933	54	
1	90.33	5340	31	16.30	8930	Normal Mean 1912-1933	5560		<b>River Pibor</b> (U.S. Gila Junction) (Gila Gauge)		
2	90.23	5140	<b>Khartoum (Blue Nile)</b>			<b>Mogren (White Nile)</b>			2	10.03	138
3	90.21	5140	3	14.42	4150	4	14.41	626	12	10.32	205
4	90.30	5250	7	14.94	5490	9	15.01	713	22	10.70	264
5	90.38	5370	12	15.54	7220	Approx. Monthly Mean	—		Approx. Monthly Mean	220	
6	90.38	5370	18	15.96	7380	Normal Mean 1912-1933	621		Normal Mean 1929-1933	74	
7	90.34	5290	25	16.20	7840	<b>Malakâl (White Nile)</b>			<b>Akobo (River Pibor)</b>		
8	90.32	5240	27	16.36	8020	5	11.78	1040	5	15.74	180
9	90.28	5190	30	16.46	8570	10	11.86	1070	10	16.13	196
10	90.26	5120	Approx. Monthly Mean	6790		15	11.91	1100	15	16.53	259
11	90.35	5310	Normal Mean 1912-1933	5600		20	11.99	1140	20	17.00	253
12	90.51	5570	<b>Sennar (Blue Nile)</b>			25	12.07	1100	25	17.26	281
13	90.72	5800	1	9.82	3700	30	12.17	1200	30	17.40	283
14	90.98	6250	4	10.75	4810	Approx. Monthly Mean	1100		Approx. Monthly Mean	232	
15	91.29	6690	6	11.01	5320	Normal Mean 1912-1933	1050		Normal Mean 1929-1933	73	
16	91.67	7540	8	11.37	5720	<b>Hillet Doleib (River Sobât)</b>			<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)		
17	92.14	8600	11	12.40	7390	4	13.12	551	8	12.45	180
18	92.45	9210	13	12.12	6810	9	13.19	564	19	12.59	182
19	92.58	9590	15	12.46	7250	14	13.27	585	28	12.70	187
20	92.58	9550	18	12.09	6720	20	13.39	633	Approx. Monthly Mean	182	
21	92.54	9470	20	12.38	7190	24	13.48	652	Normal Mean 1912-1933	147	
22	92.52	9420	22	12.70	7340	29	13.58	684	<b>Abu Tong (White Nile)</b> (Tonga Gauge)		
23	92.48	9320	25	13.20	8050	Approx. Monthly Mean	608		8	12.61	319
24	92.44	9250	27	13.78	8700	Normal Mean 1912-1933	608		19	12.72	313
25	92.43	9250	29	13.43	8340	<b>River Sobat (At Head)</b> (Nasser Gauge)			28	12.83	325
26	92.48	9260	31	13.10	7560	3	9.57	670	Approx. Monthly Mean	319	
27	92.58	9470	Approx. Monthly Mean	6740		13	9.82	682	Normal Mean 1923-1933	299	
28	92.74	9830	Normal Mean 1912-1933	5500		23	10.09	721	<b>Lake No (White Nile)</b>		
29	92.89	10200	<b>Gezira Main Canal</b> (Kilo 1.3)			Approx. Monthly Mean	697		7	13.92	336
30	93.06	10500	2	16.44	89	Normal Mean 1929-1933	645		18	13.96	344
31	93.16	10700	2	16.44	89	<b>Gambeila (River Baro)</b>			27	14.00	332
Approx. Monthly Mean	7520		16	15.56	48	3	12.60	798	Approx. Monthly Mean	338	
Normal Mean 1912-1933	6300		16	15.56	49	7	12.78	839	Normal Mean 1923-1933	312	
<b>River Atbara (Kilo. 3)</b>			Approx. Monthly Mean	57		10	13.44	1070			
4	12.98	1360	Normal Mean 1925-1933	51		14	14.02	1240			
8	13.75	2200	<b>Wad el Aies (Blue Nile)</b>			19	14.02	1270			
14	14.63	3560	2	11.51	4380	22	14.32	1450			
19	14.53	2160	4	12.04	5190	25	14.25	1390			
28	15.23	3670	6	12.40	5650	29	14.03	1280			
30	15.50	4010	8	12.53	5710	Approx. Monthly Mean	1160				
Approx. Monthly Mean	2770		10	13.28	6960	Normal Mean 1928-1933	955				
Normal Mean 1912-1933	2060		12	13.12	6430						
<b>Hassanab (Main Nile)</b>			14	13.30	6680						
3	14.80	4940	16	13.47	7210						
7	15.32	5350	18	13.02	6260						
12	16.47	6640	20	13.54	7160						
18	16.60	8090									
25	17.26	7790									
29	17.38	8370									
31	17.36	8860									
Approx. Monthly Mean	6880										
Normal Mean 1912-1933	5970										



# Discharges of the Nile during August, 1934 (continued)

Observed by the Irrigation Department.

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Ghazal</b> (At Mouth)			<b>Gigging (Bahr el Jebel)</b> (Western Channel)			<b>Terrakekka (Bahr el Jebel)</b>		
Suddite Factory Gauge						1   13.44   925		
7	14.00	29				Approx. Monthly Mean 1070		
18	14.03	39	3	29.11	216	Normal Mean 1931-1933 1140		
27	11.08	38	Approx. Monthly Mean —					
Approx. Monthly Mean		35	Normal Mean 1931-1933 300					
Normal Mean 1923-1933		23				<b>Mongalla (Bahr el Jebel)</b>		
<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)			1	11.96	908
7	13.92	307				6	12.32	1100
18	13.96	307				11	12.24	1060
27	14.00	306	2	428.86	685	16	12.56	1200
Approx. Monthly Mean		307	Approx. Monthly Mean —			21	12.80	1330
Normal Mean 1923-1933		291	Normal Mean 1931-1933 774			26	12.56	1190
						Approx. Monthly Mean 1160		
						Normal Mean 1912-1933 1030		

**Occasional Discharges**

*Observed by the Irrigation Department.*

DATE.	RIVER.	SITE.	GAUGE.		DISCH. m <sup>3</sup> . p.s.
			Reading.	Site.	
			M.		
<b>River Sobât and Tributaries</b>					
5-8-1934	Sobât	D.S. Khor Nyanding Junction ... ..	11.89	Nyanding Mouth	605
15-8-1934	"	" " " " " " " " " " " "	12.16	"	630
25-8-1934	"	" " " " " " " " " " " "	12.48	"	685
5-8-1934	Khor Nyanding	Mouth ... ..	11.89	"	— 4
15-8-1934	" "	" " " " " " " " " " " "	12.16	"	— 2
25-8-1934	" "	" " " " " " " " " " " "	12.48	"	7
4-8-1934	" Twalor	" " " " " " " " " " " "	9.64	Nasser	— 6
3-8-1934	" Wakau	" " " " " " " " " " " "	9.57	"	— 31
12-8-1934	" "	" " " " " " " " " " " "	9.83	"	— 31
23-8-1934	" "	" " " " " " " " " " " "	10.10	"	— 23
1-8-1934	" Geni	" " " " " " " " " " " "	15.45	Akobo	— 7
11-8-1934	" "	" " " " " " " " " " " "	16.20	"	— 10
21-8-1934	" "	" " " " " " " " " " " "	17.06	"	— 7
1-8-1934	Akobo	" " " " " " " " " " " "	15.45	"	— 9
11-8-1934	"	" " " " " " " " " " " "	16.20	"	— 22
21-8-1934	"	" " " " " " " " " " " "	17.06	"	— 26
30-8-1934	Agwei	" " " " " " " " " " " "	16.10	"	14
20-8-1934	"	" " " " " " " " " " " "	16.98	"	34
24-8-1934	"	" " " " " " " " " " " "	17.41	"	— 41

P. PHILLIPS,  
*Director, Hydrological Service.*

# Ministry of Public Works, Egypt — Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR OCTOBER, 1934

### The Weather

The chief features of the weather during the month were:—

- (1) The prolonged period of warm weather from the 9th to the 24th.
- (2) The severe thunderstorm which occurred in Upper Egypt during the last week.

During the first week, the weather was pleasant, owing to a high pressure to the west of Egypt, causing cool northerly winds.

On the 10th a secondary depression appeared off Benghazi causing hot and dry southerly winds in Northern Egypt. The maximum temperature registered at Alexandria on the 10th and 11th was 34° C. being 6° C. above normal. In the succeeding period several shallow depressions affected Egypt and thus the warm weather was prolonged until the 24th.

On the 15th a depression arrived north of Egypt, winds went round to the south, and the weather became very hot and oppressive; the thermometer rose in Cairo on that day to 37° C. (99° F.) *i.e.* 8° C. above normal. The next day the depression passed and the wind veered to north-east; the temperature fell somewhat, but was still much above normal due to the approach of another deep depression from the Central Mediterranean. This depression slowly traversed southern Europe reaching Asia Minor a few days later. During this period the weather in Egypt was warm.

On the 22nd a secondary depression appeared in the desert near Siwa causing easterly winds and high temperatures for two days. The maximum temperature at Giza on the 23rd surpassed the normal by 6° C., but when this depression reached Palestine on the 25th, the temperature in Egypt fell appreciably and heavy rain fell on the coast on the 27th. The amount collected at Matruh was 12 millimetres and at Salum 9 millimetres.

On the 28th a depression developed over the northern Red Sea. Severe thunderstorms occurred in Upper Egypt and the Sinai Peninsula and heavy rain fell near Aswân, which caused floods and much damage to houses and communications. The pressure then rose over Western Egypt and settled conditions prevailed until the end of the month.

For the month as a whole, the pressure was above normal in Egypt and the Red Sea and below normal in the Sudan, while the temperature was above normal everywhere. The air at Alexandria was much damper than usual, the humidity being above normal on nearly every day and averaging 73 per cent compared with a normal of 68 per cent.

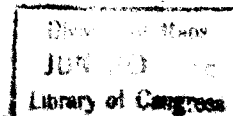
Rainfall was deficient in all districts except in Upper Egypt and the Central Sudan.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR OCTOBER 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX.+MIN./2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1016.9	+0.9	29.3	+1.5	19.6	-0.1	24.4	+0.7	4	-3
II. Middle Egypt ...	1016.8	+0.7	30.9	+1.3	17.9	+1.1	24.4	+1.2	0	-1
III. Upper Egypt ...	1013.6	0.0	36.0	+1.4	20.2	+0.7	28.1	+1.0	0	0
IV. North Sudan ...	1009.0	-0.8	40.2	+0.8	24.0	+0.5	32.1	+0.6	0	-4
V. Red Sea * ...	1013.0	+1.2	34.3	+0.6	25.1	+0.5	29.7	+0.6	0	-14
VI. Central Sudan ...	1009.4	-0.7	37.6	+0.5	21.4	+0.5	29.5	+0.5	20	+5
VII. South Sudan ...	1010.3	-0.3	33.8	-0.3	21.6	+0.6	27.7	+0.2	74	-25

\*Port Sudan only.

L. J. SUTTON  
Director, Meteorological Service.



## State of the River

Lake Albert at Butiaba fell 3 centimetres during the month. Its level on November 1, 1934, was 4 centimetres above normal but 70 centimetres below that of the corresponding day of last year.

The Bahr el Jebel at Juba fell slightly throughout the month. The levels were below both the normal and last year's.

The River Sobat at Nasser rose faster than normally, the levels being continuously above both the normal and those of last year.

The White Nile at Malakal rose at normal rate. The levels were above normal but below last year's throughout the month.

The Blue Nile at Roseires rose 32 centimetres on the 2nd then fell rapidly until the 11th, rose again slightly on the 12th and 13th and fell at normal rate thereafter. The levels were above normal throughout the month but below last year's for the second fortnight. At Khartoum the Blue Nile was almost steady for the first six days and then fell rather faster than normally. The levels were below those of last year for the last ten days but above normal throughout the month.

The River Atbara at Khashm el Girba fluctuated above normal until the 13th when there was a sharp rise of 61 centimetres. After this date the level fell rapidly and was a few centimetres below normal at the end of the month.

The Main Nile at Wadi Halfa fell at about normal rate. The levels though above normal throughout were a few centimetres below last year's at the end of the month.

The differences of the mean levels in October 1934 from those of October 1933 and from the normal 1906-1930 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	Oct. 1934 minus Oct. 1933	Oct. 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0·62	— 0·37
Nasser ... ..	+ 0·41	+ 0·27 †
Malakal ... ..	— 0·29	+ 0·25
Roseires ... ..	— 0·05	+ 0·55
Khartoum ... ..	0·00	+ 0·21
Khashm el Girba ... ..	— 0·09	+ 0·07
Wadi Halfa ... ..	+ 0·27	+ 0·52

† Nasser normal is for 1922-1930 only.

P. PHILLIPS

*Director Hydrological Service*

By Transfer  
U. S. Weather Bureau

JUN 20 1934

## Discharges of the Nile during September, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b>			<b>Hassanab (Main Nile)</b>			<b>Sennar (Blue Nile)</b>			<b>Malakâl (White Nile)</b>		
(Main Nile)			2	17.26	8430	2	12.46	6520	5	12.22	1190
4	80.30	11300	4	17.05	8990	4	11.64	5650	10	12.25	1180
11	80.18	9770	6	16.91	7790	6	11.20	5210	16	12.29	1180
18	79.53	8560	10	16.55	7610	8	11.03	5050	20	12.34	1260
25	79.09	7780	12	16.36	7530	10	10.59	4440	25	12.36	1220
Approx. Monthly Mean 9170			14	16.26	7220	12	10.46	4480	30	12.39	1240
			16	16.10	7060	14	10.61	4650	Approx. Monthly Mean 1220		
			18	15.99	6900	16	10.42	4330	Normal Mean 1912-1933 1160		
			20	15.89	6540	18	11.10	5460			
			25	15.96	6920	20	10.79	4890			
			Approx. Monthly Mean 7340			22	10.76	5000			
			Normal Mean 1912-1933 6540			25	10.74	4820			
						27	10.52	4590			
						29	10.44	4440			
						Approx. Monthly Mean 5000					
						Normal Mean 1912-1933 4990					

Discharges of the Nile during September, 1934 (continued)

Observed by the Irrigation Department.

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.		
<b>Akobo (River Pibor)</b>			<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>Bahr el Ghazal</b> (At Mouth) (Suddite Factory Gauge)			<b>Terrakekka (Bahr el Jebel)</b>				
5	17.44	282	8	12.90	317	7	14.10	36	1	14.16	1220		
10	17.45	281	18	12.99	347	17	14.12	39	<b>Approx. Monthly Mean</b> 1020				
15	17.36	279	28	13.02	328	27	14.12	39	<b>Normal Mean 1931-1933</b> 1200				
20	17.24	244	<b>Approx. Monthly Mean</b> 331			<b>Approx. Monthly Mean</b> 38			<b>Mongalla (Bahr el Jebel)</b>				
25	17.10	227	<b>Normal Mean 1923-1933</b> 307			<b>Normal Mean 1923-1933</b> 38							
30	16.98	231	<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			<b>Bahr el Jebel (Kilo. 3.)</b> (Lake No Gauge)			1	12.70	1270		
<b>Approx. Monthly Mean</b> 261						7			14.02	302	6	12.50	1180
<b>Normal Mean 1929-1933</b> 78			<b>Lake No (White Nile)</b>			17			14.05	299	11	12.06	948
<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			7	14.02	331	27			14.03	298	16	11.86	850
			17	14.05	335	27			14.03	298	21	11.78	839
<b>Approx. Monthly Mean</b> 196			<b>Approx. Monthly Mean</b> 335			<b>Approx. Monthly Mean</b> 300			<b>Approx. Monthly Mean</b> 946				
<b>Normal Mean 1929-1933</b> 78			<b>Normal Mean 1923-1933</b> 307			<b>Normal Mean 1923-1933</b> 38			<b>Normal Mean 1912-1933</b> 1070				
<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			<b>Lake No (White Nile)</b>			<b>Bahr el Jebel (Kilo. 3.)</b> (Lake No Gauge)			26	11.71	796		
									26	11.71	796		
<b>Approx. Monthly Mean</b> 196			<b>Approx. Monthly Mean</b> 335			<b>Approx. Monthly Mean</b> 300			<b>Approx. Monthly Mean</b> 946				
<b>Normal Mean 1929-1933</b> 78			<b>Normal Mean 1923-1933</b> 307			<b>Normal Mean 1923-1933</b> 38			<b>Normal Mean 1912-1933</b> 1070				

# Occasional Discharges

*Observed by the Irrigation Department.*

DATE	RIVER	SITE	GAUGE		DISCH. m. <sup>3</sup> p.s.
			Reading	Site	
			M.		
<b>River Sobât and Tributaries</b>					
5-9-1934	Sobât	D.S. Khor Nyanding Junction ... ..	12·69	Nyanding Mouth	727
15-9-1934	"	" " " " ... ..	12·84	"	735
25-9-1934	"	" " " " ... ..	12·96	"	732
5-9-1934	Khor Nyanding	Mouth ... ..	12·69	"	6
15-9-1934	" "	" ... ..	12·84	"	5
25-9-1934	" "	" ... ..	12·96	"	8
4-9-1934	" Twalor	" ... ..	10·42	Nasser	11
14-9-1934	" "	" ... ..	10·51	"	23
24-9-1934	" "	" ... ..	10·60	"	33
3-9-1934	" Wakau	" ... ..	10·42	"	14
13-9-1934	" "	" ... ..	10·51	"	25
23-9-1934	" "	" ... ..	10·60	"	30
1-9-1934	" Geni	" ... ..	17·42	Akobo	— 5
11-9-1934	" "	" ... ..	17·44	"	— 7
21-9-1934	" "	" ... ..	17·22	"	— 3
1-9-1934	Akobo	" ... ..	17·42	"	— 33
11-9-1934	"	" ... ..	17·44	"	— 33
21-9-1934	"	" ... ..	17·22	"	— 28
10-9-1934	Agwei	" ... ..	17·52	"	— 42
20-9-1934	"	" ... ..	17·24	"	— 28
30-9-1934	"	" ... ..	16·99	"	14

P. PHILLIPS,

*Director, Hydrological Service.*

# Ministry of Public Works, Egypt — Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR NOVEMBER, 1934

### The Weather

As in the preceding month, the weather was much warmer than usual for the time of year.

A depression situated over the northern part of the Red Sea deepened on the 4th and the weather in Upper Egypt became unsettled to a remarkable degree. In the next few days very heavy rainstorms, accompanied in some cases by thunder and lightning, were experienced throughout Upper Egypt, as far south as Aswân, and from the oases of Baharia and Kharga in the west to the Red Sea in the east. In the Delta only very light showers occurred. The rainfall on the 6th was particularly heavy and widespread, and considerable damage to property resulted on account of the floods. At Qosseir on the Red Sea coast the rainfall on that day amounted to 34 millimetres, while at Assiut 20 millimetres were registered. On the 8th the depression moved to northern Arabia and the weather in Upper Egypt then became settled.

In the course of the next few days a shallow depression travelled along the eastern Mediterranean and light showers occurred near the coast. Subsequently with high pressure to the north of Egypt, fresh easterly winds prevailed and the weather became much warmer, these conditions persisting with little modification for over a week. Morning mists occurred on the 19th, 20th and 22nd. On the following day a small depression was approaching Cyprus from the west, causing southerly winds in Egypt, its passage being accompanied by light rain near the coast. North-easterly winds were then again established, except in the west of Egypt where south-easterly winds were blowing into a small depression situated near Benghazi, and rainy weather prevailed in the coastal strip there for several days, though the rest of Egypt remained unaffected. In the evening of the 27th torrential rain accompanied a gale and thunderstorm at Salum, and within an hour and a quarter, forty millimetres had fallen. The torrents caused much damage and the loss of a life. During the storm the wind reached a velocity of 85 kilometres an hour from the north-northwest. The storm continued on the following day, a further 22 millimetres being recorded at Salum, while 11 millimetres were registered at Mersa Matruh. At Sidi Barrani the amount reached 23 millimetres.

For the month as a whole the barometric pressure was below normal except in Lower Egypt, while throughout Egypt and the Sudan the temperature was above normal. In Cairo the day temperature was continuously above normal, especially in the latter half of the month, while the night temperature fell below normal on only four occasions.

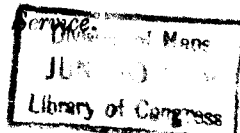
Rainfall in Lower Egypt was below normal, but that in Upper Egypt was phenomenal for that region. Rain fell at Port Sudan on thirteen days, that on the 16th amounting to 41 millimetres, while the total for the month was double the normal amount.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR NOVEMBER 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX.+MIN./2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1018.4	+1.0	26.2	+1.8	17.9	+1.7	22.0	+1.8	5	—19
II. Middle Egypt ... ..	1018.1	+0.4	27.4	+1.9	14.5	+1.0	21.0	+1.4	0	—6
III. Upper Egypt ... ..	1015.7	—0.6	31.0	+1.6	15.7	+1.5	23.4	+1.6	14	+12
IV. North Sudan ... ..	1011.2	—0.6	35.8	—0.2	20.8	+1.0	28.3	+0.4	1	+1
V. Red Sea * ... ..	1014.0	+0.5	31.0	0.0	23.5	—0.1	27.2	0.0	89	+44
VI. Central Sudan ... ..	1009.9	—1.1	36.9	+0.6	18.9	+0.9	27.9	+0.8	1	0
VII. South Sudan ... ..	1010.0	—0.5	35.7	+0.3	19.6	+0.2	27.6	+0.2	7	—11

\*Port Sudan only.

L. J. SUTTON  
Director, Meteorological Service.





## State of the River

Lake Albert at Butiaba rose 4 centimetres during the month. Its level on December 1, 1934, was 1 centimetre above normal but 59 centimetres below that of the corresponding day of last year.

With the exception of a small rise on the 3rd the Bahr el Jebel at Juba was practically steady throughout the month, the levels being below both the normal and those of last year.

The River Sobat at Nasser fell slowly during the month. The levels were throughout above both the normal and last year's.

The White Nile at Malakal was almost steady, the levels being above normal but below last year's.

At Roseires the Blue Nile fell at about normal rate for the first half of the month, and more slowly thereafter. The levels were above normal but a few centimetres below last year's. At Khartoum the Blue Nile was practically normal, the levels being below last year's throughout.

The River Atbara at Khashm el Girba fell at about normal rate, the levels which were a few centimetres below normal being considerably below those of last year.

The Main Nile at Wadi-Halfa fell at about normal rate, the levels being above normal but below last year's throughout the month.

The differences of the mean levels in November 1934 from those of November 1933 and from the normal 1906-1930 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	Nov. 1934 minus Nov. 1933	Nov. 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0·36	— 0·31
Nasser ... ..	+ 0·23	+ 0·43 †
Malakal ... ..	— 0·25	+ 0·29
Roseires ... ..	— 0·08	+ 0·48
Khartoum ... ..	— 0·19	+ 0·05
Khashm el Girba ... ..	— 0·25	— 0·09
Wadi Halfa ... ..	— 0·33	+ 0·23

† Nasser normal is for 1922-1930 only.

By Transfer  
U. S. Weather Bureau  
JUN 20 1936

# Discharges of the Nile during October, 1934

Observed by the Irrigation Department.

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.
<b>Esna (D.S. Barrage)</b>			<b>Hassanab (Main Nile)</b>			<b>Wad el Aies (Blue Nile)</b>			<b>River Sobat (At Head)</b>		
(Main Nile)									(Nasser Gauge)		
2	78.96	7430	1	15.69	6500	1	12.43	4550	3	10.66	781
9	78.68	6840	6	15.44	6240	3	12.65	5010	13	10.75	793
16	78.18	6110	10	15.22	5750	5	11.74	4070	23	10.80	793
23	77.34	5110	15	14.93	5010	7	11.20	3390	Approx. Monthly Mean 791		
30	76.49	3960	19	14.48	4630	9	10.89	3190	Normal Mean 1929-1933 739		
Approx. Monthly Mean 5910			24	14.08	4090	11	10.51	2890			
			31	13.56	3200	13	10.42	28.0			
			Approx. Monthly Mean 4970			15	10.40	2870			
			Normal Mean 1912-1933 4430			17	10.27	2790			
						19	9.88	2510			
						21	9.56	2190			
						23	9.34	1980			
						25	9.16	1790			
						27	9.00	1690			
						29	8.92	1570			
						Approx. Monthly Mean 2800					
						Normal Mean 1912-1933 2420					

Discharges of the Nile during October, 1934 (continued)

Observed by the Irrigation Department.

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Lake No (White Nile)</b>			<b>Bahr el Jebel (Kilo. 3.)</b>			<b>Gemeiza (Bahr el Jebel)</b>			<b>Mongalla (Bahr el Jebel)</b>		
(Lake No Gauge)			(Lake No Gauge)			(Eastern Channel)					
7	14.10	333	7	14.10	291				1	11.62	752
17	14.12	346	17	14.12	286				6	11.63	792
27	14.10	338	27	14.10	292	2	428.62	624	11	11.54	740
Approx. Monthly Mean		339	Approx. Monthly Mean		290	Approx. Monthly Mean		602	16	11.56	753
Normal Mean 1923-1933		312	Normal Mean 1923-1933		272	Normal Mean 1931-1933		815	21	11.50	752
<b>Bahr el Ghazal</b>			<b>Gigging (Bahr el Jebel)</b>			<b>Terrakekka (Bahr el Jebel)</b>			26	11.48	725
(At Mouth)			(Western Channel)						Approx. Monthly Mean		756
(Suddite Factory Gauge)									Normal Mean 1912-1933		1040
7	14.20	59	3	28.80	181	1	13.08	794	<b>Nimulé (Bahr el Jebel)</b>		
17	14.20	56	Approx. Monthly Mean		175	Approx. Monthly Mean		767	1	10.25	758
27	14.17	44	Normal Mean 1931-1933		300	Normal Mean 1931-1933		1140	1	10.25	756
Approx. Monthly Mean		52							2	10.24	755
Normal Mean 1923-1933		44							2	10.24	773
									3	10.23	739
									3	10.23	751

# Occasional Discharges

*Observed by the Irrigation Department.*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
			M.		
<b>River Sobât and Tributaries</b>					
10-1934	Khor Fullus	Mouth ... ..	13.97	H. Doleib	8
10-1934	Sobât	D.S. Khor Nyanding Junction ... ..	13.04	Nyanding Mouth	733
10-1934	"	" " " " " " " " " " " "	13.13	"	794
10-1934	"	" " " " " " " " " " " "	13.19	"	776
10-1934	Khor Nyanding	Mouth ... ..	13.04	"	7
10-1934	" "	" ... ..	13.13	"	-16
10-1934	" "	" ... ..	13.19	"	-24
10-1934	" Twalor	" ... ..	10.67	Nasser	43
10-1934	" "	" ... ..	16.76	"	142
10-1934	" "	" ... ..	10.80	"	139
10-1934	" Wakau	" ... ..	10.67	"	34
10-1934	" "	" ... ..	10.75	"	42
10-1934	" "	" ... ..	10.30	"	47
10-1934	" Geni	" ... ..	16.96	Akobo	— 4
10-1934	" "	" ... ..	16.68	"	3
10-1934	" "	" ... ..	16.31	"	5
10-1934	Akobo	" ... ..	16.96	"	— 24
10-1934	"	" ... ..	16.68	"	— 18
10-1934	"	" ... ..	16.31	"	— 12
10-1934	Agwei	" ... ..	16.71	"	19
10-1934	"	" ... ..	16.36	"	42
10-1934	"	" ... ..	15.85	"	54
<b>White Nile Tributaries</b>					
10-1934	Tonga Cut	Tail ... ..	13.15	Tonga	54
10-1934	"	" ... ..	13.15	"	48
10-1934	Khor Lolle	U.S. Tonga Cut ... ..	13.17	"	50
10-1934	"	" " " " " " " " " " " "	13.15	"	49

P. PHILLIPS,  
*Director, Hydrological Service.*

Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER  
FOR DECEMBER, 1934

The Weather

During the greater part of the month, weather conditions over the eastern Mediterranean were much disturbed by the passage of depressions, and in Egypt the winds were almost continuously from between south and west. Remarkably heavy rain fell on the coast during the first and last weeks, especially in the vicinity of Abukir Bay. Eastwards along the coast and inland rainfall rapidly diminished, being very small at Port Said and almost negligible in Cairo.

At the beginning of the month a depression developed over the northern Red Sea, mild northeast winds blew in Egypt, and light showers occurred.

On the 4th a depression arrived north of Egypt and cool fresh westerly winds arose. The eastern Mediterranean remained under the influence of a disturbance for a week during which period the weather throughout Lower Egypt was unsettled and rain fell in many places. At Alexandria there were showers daily until the 10th, the amount reaching 51 millimetres, of which 21 millimetres fell on the 4th. On the following day 62 millimetres were recorded at Tolombat, near Abukir, 34 millimetres at Tarfaia on the west of Lake Edku and 26 at Mex. There was also rain in Upper Egypt on 7th: Baharia Oasis recorded 9 millimetres. The wind velocity reached 80 kilometres an hour at Alexandria on the 9th.

High pressure was established over Egypt on the 12th and settled conditions with mild weather prevailed for some days.

From the 17th onwards a series of depressions traversed the Mediterranean basin affecting continuously the weather conditions in Egypt and causing southerly winds to prevail during the remainder of the month, with abnormal rainfall during the last week.

On the 19th a deep depression centred over Crete, with a secondary off Alexandria, moved quickly eastwards, causing strong southerly winds throughout Egypt. Severe sandstorms occurred in the western desert and at Salum the wind velocity reached 75 kilometres an hour. Similar conditions though of less severity were maintained by a succession of depressions. With the arrival of a depression over Cyprus on the 27th a spell of rainy weather was experienced near the coast. On the 29th rain fell at Alexandria with short breaks for nearly the whole day, the amount reaching 35 millimetres; 10 millimetres were recorded at Tarfaia and 31 at Tolombat.

For the month as a whole the barometric pressure was below normal in all districts except in the southern Sudan—particularly in Lower Egypt. The temperature was almost continuously above normal in Lower Egypt, though not by large amounts, and slightly below normal in Upper Egypt and the Sudan. Rainfall was much above normal on the coast except in the eastern parts, being between three and four times the normal at Tarfaia, where it amounted to 211 millimetres, and at Tolombat, where it reached 181 millimetres. These amounts represent a series of unusually heavy storms, as there were only ten days of rain. At Alexandria rain fell on 16 days, giving a total of 103 millimetres compared with a normal of 59 millimetres. On the other hand, only 14 millimetres fell at Port Said.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR DECEMBER 1934

DISTRICTS	BAROMETRIC PRESSURE.		TEMPERATURE.						RAINFALL	
			MAXIMUM.		MINIMUM.		MAX.+MIN. 2.			
	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.	1934.	Difference from Normal.
	mb.	mb.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ... ..	1015.6	-2.4	21.2	+1.0	12.5	+0.8	16.8	+0.9	70	+33
II. Middle Egypt ... ..	1017.0	-2.1	22.0	+1.5	9.9	+0.9	16.0	+1.2	10	+ 2
III. Upper Egypt ... ..	1017.8	-1.1	24.1	+0.1	9.2	-0.3	16.6	-0.1	0	- 3
IV. North Sudan ... ..	1014.0	-0.1	31.3	-1.0	15.0	-0.6	23.2	-0.8	0	0
V. Red Sea * ... ..	1014.7	-0.5	27.8	-0.6	22.2	+0.9	25.0	+0.2	3	-23
VI. Central Sudan ... ..	1012.7	-0.3	33.0	-1.1	14.4	-0.5	23.7	-0.8	2	+ 2
VII. South Sudan ... ..	1011.8	+0.6	35.2	-0.5	17.8	+0.2	26.5	-0.2	8	+ 2

\*Port Sudan only.

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Director, Meteorological Service.

Div. of Marine  
Library of Congress

## State of the River

Lake Albert at Butiaba fell 5 cms. during the month. Its level on January 1st 1935 was 5 cms. above the normal but 57 cms. below that of the corresponding day of last year.

The Bahr el Jebel at Juba was almost steady throughout the month. The levels were below normal and much lower than last year's.

The River Sobat at Nasser fell at about normal rate the levels remaining above both the normal and last year's throughout.

The White Nile at Malakal remained steady during the first fortnight and fell slowly thereafter. The levels were above normal throughout, above last year's until the 23rd and almost identical with them afterwards.

The Blue Nile at Roseires fell normally during the first fortnight. It then remained steady for a week and fell again almost normally thereafter. The levels were above normal during the whole month, identical with last year's until the 10th and above them afterwards. At Khartoum the Blue Nile fell during the first 3 days, rose slightly until the 7th due to the completion of the filling of Sennar Reservoir, and then fell slowly until the end of the month. The levels were a few centimetres above normal throughout, below last year's until the 24th and a few centimetres above them thereafter.

The Main Nile at Kajarti fell at normal rate for the first 14 days, remained steady until the 20th and then fell again at normal rate until the end of the month. The levels were above normal but below those of last year.

A remarkable feature of the month was the pause in the fall of the Blue Nile at Roseires which remained steady for a week and then fell only a little faster than normally, indicating a very unusual rainfall in Abyssinia at this time of year. Equally remarkable was the lateness of the fall of the Sobat at its mouth as compared with Nasser about 300 kilometres upstream, indicating that a large volume of water entered the river between Naser and its mouth.

The differences of the mean levels in December 1934 from those of December 1933 and from the normal 1906-30 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	Dec. 1934 minus Dec. 1933	Dec. 1934 minus Normal
	Metres	Metres
Juba ... ..	— 0·32	— 0·18
Nasser ... ..	+ 0·42	+ 0·98 †
Malakal ... ..	— 0·07	+ 0·53
Roseires ... ..	+ 0·18	+ 0·59
Khartoum ... ..	— 0·08	+ 0·11
Kajarti ... ..	— 0·27	+ 0·22

† Nasser normal is for 1922-1930 only.

## Discharges of the Nile during November, 1934

*Observed by the Irrigation Department.*

Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.	Day of Month	Gauge Reading m.	Disch. m³. p.s.
<b>Asna (D.S. Barrage)</b>			<b>Halfa (contd.).</b>			<b>Sennar (contd.).</b>			<b>Hillet Doleib (River Sobât)</b>		
(Main Nile)			24	3.71	2280	17	6.30	732	4	14.02	786
6	75.24	2800	25	3.67	2210	19	6.21	703	9	14.02	801
13	74.84	2390	26	3.62	2310	21	6.14	551	14	14.04	823
19	74.30	2090	27	3.58	2250	24	5.96	510	19	14.05	891
27	73.86	1560	28	3.55	2190	28	5.88	574*	24	14.05	819
			28	3.55	2230	30	5.87	598*	29	14.05	827
			29	3.50	2190						
Monthly Mean		2330	Approx. Monthly Mean		2850	Approx. Monthly Mean		810	Approx. Monthly Mean		808
			Normal Mean 1912-1933		2860	Normal Mean 1912-1933		887	Normal Mean 1912-1933		778
<b>Aswân</b>			<b>River Atbara (Kilo. 3)</b>			<b>Gezira Main Canal</b>			<b>River Sobat (At Head)</b>		
(Measured by Sluices)			(Aswân D.S. Gauge.)			(Kilo 1.3)			(Nasser Gauge)		
	88.99	3570	1	11.26	121	2	16.06	72	3	10.83	801
	88.84	3380	8	11.00	82	2	16.06	69	13	10.77	711
	88.70	3210	12	10.88	72	17	15.84	63	23	10.62	638
	88.55	3080	17	10.74	57	17	15.84	60			
	88.40	2870	22	10.62	54	Approx. Monthly Mean		66	Approx. Monthly Mean		694
	88.25	2750	26	10.56	38	Normal Mean 1925-1933		64	Normal Mean 1929-1933		660
	88.21	2710	Approx. Monthly Mean		68						
	88.22	2720	Normal Mean 1912-1933		65						
	88.21	2720	<b>Hassanab (Main Nile)</b>			<b>Roseires (Blue Nile)</b>			<b>River Gila (At Mouth)</b>		
	88.20	2720							(Gila Gauge)		
	88.12	2630	7	13.04	2780	2	15.30	1490	2	10.41	— 15
	88.02	2510	11	12.92	2660	4	15.16	1440	12	10.27	— 9
	87.92	2420	16	12.68	2390	6	14.96	1330	22	10.08	31
	87.80	2310	21	12.53	2100	8	14.79	1210	Approx. Monthly Mean		10
	87.68	2200	25	12.45	2000	10	14.67	1120	Normal Mean 1929-1933		32
	87.63	2190	30	12.32	1900	12	14.56	1090			
	87.58	2120	Approx. Monthly Mean		2430	14	14.48	1010			
	87.52	2090	Normal Mean 1912-1933		2270	16	14.42	996			
	87.53	2090	<b>Tamaniât (Main Nile)</b>			18	14.32	942			
	87.53	2090				20	14.23	923			
	87.52	2080	4	12.60	2670	22	14.15	874			
	87.52	2080	8	12.39	2410	24	14.11	873			
	87.40	1990	13	12.16	2250	26	14.04	843			
	87.28	1890	18	12.01	2200	28	14.00	828			
	87.16	1790	22	11.89	2030	30	13.96	813			
	87.04	1700	27	11.77	1880	Approx. Monthly Mean		1060			
	86.92	1600	Approx. Monthly Mean		2260	Normal Mean 1912-1933		1010			
	86.80	1550	Normal Mean 1912-1933		2200	<b>Mogren (White Nile)</b>					
	86.68	1440	<b>Khartoum (Blue Nile)</b>								
	86.60	1390									
Monthly Mean		2330	3	12.86	1420	3	13.03	1340			
Normal Mean 1912-1933		2800	7	12.72	1350	7	12.82	1200			
<b>Halfa (Main Nile)</b>			12	12.46	1070	12	12.60	1240			
	5.25	4110	17	12.26	907	17	12.44	1240			
	5.06	3810	21	12.12	805	21	12.32	1230			
	4.98	3690	26	11.97	694	26	12.18	1140			
	4.89	3590	Approx. Monthly Mean		1010	Approx. Monthly Mean		1230			
	4.71	3360	Normal Mean 1912-1933		977	Normal Mean 1912-1933		1220			
	4.64	3270	<b>Sennar (Blue Nile)</b>			<b>Malakâl (White Nile)</b>					
	4.47	3100	3	7.10	1200	5	12.54	1310			
	4.38	3040	5	7.09	1210	10	12.55	1300			
	4.30	2910	7	6.88	1080	15	12.55	1300			
	4.24	2830	10	6.54	849	21	12.56	1290			
	4.18	2690	12	6.56	874	25	12.56	1310			
	4.12	2720	14	6.36	776	30	12.56	1300			
	3.98	2580				Approx. Monthly Mean		1300			
	3.95	2510				Normal Mean 1912-1933		1230			
	3.91	2570				<b>Akobo (River Pibor)</b>					
	3.88	2500									
	3.83	2420									

\* Site transferred to 1 kilometre U.S. Hillet Sherif.

Discharges of the Nile during November, 1934 (continued)

Observed by the Irrigation Department.

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> .
<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			<b>Bahr el Ghazal</b> (At Mouth)			<b>Bor (Bahr el Jebel)</b>			<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)		
8	13.06	214	(Suddite Factory Gauge)			Aug 12	11.40	773	2	428.50	5
18	13.07	209				12	11.40	762	Approx. Monthly Mean		
28	13.07	206				13	11.41	772	Normal Mean 1931-1933		
Approx. Monthly Mean 210						13	11.41	767			
Normal Mean 1912-1933 162						14	11.41	768			
						14	11.41	780			
						15	11.41	781			
						15	11.42	799			
						16	11.42	783			
						16	11.42	781			
						17	11.42	781			
						17	11.42	786			



# Occasional Discharges

Observed by the Irrigation Department

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
			M.		
River Sobât and Tributaries					
4-11-1934	Khor Fullus	Mouth ... ..	14.02	H. Doleib	5
14-11-1934	" "	" ... ..	14.04	"	6
23-11-1934	" "	" ... ..	14.05	"	7
5-11-1934	" Sobât	D.S. Khor Nyanding Junction ... ..	13.27	Nyanding Mouth	820
15-11-1934	" "	" " " " ... ..	13.28	"	810
25-11-1934	" "	" " " " ... ..	13.24	"	797
5-11-1934	Khor Nyanding	Mouth ... ..	13.27	"	— 16
15-11-1934	" "	" ... ..	13.28	"	16
25-11-1934	" "	" ... ..	13.24	"	10
4-11-1934	" Twalor	" ... ..	10.83	Nasser	166
14-11-1934	" "	" ... ..	10.76	"	149
24-11-1934	" "	" ... ..	10.60	"	135
3-11-1934	" Wakau	" ... ..	10.83	"	54
13-11-1934	" "	" ... ..	10.77	"	51
23-11-1934	" "	" ... ..	10.62	"	32
1-11-1934	" Geni	" ... ..	15.82	Akobo	6
11-11-1934	" "	" ... ..	15.40	"	6
21-11-1934	" "	" ... ..	14.98	"	6
1-11-1934	" Akobo	" ... ..	15.82	"	— 7
11-11-1934	" "	" ... ..	15.40	"	4
21-11-1934	" "	" ... ..	14.98	"	3
10-11-1934	Agwei	" ... ..	15.44	"	52
20-11-1934	" "	" ... ..	15.03	"	38
29-11-1934	" "	" ... ..	14.60	"	26
White Nile Tributaries					
6-11-1934	Tonga Cut	Mouth ... ..	13.16	Tonga	40
7-11-1934	" "	" ... ..	13.16	"	45
16-11-1934	" "	" ... ..	13.16	"	37
25-11-1934	" "	" ... ..	13.15	"	28
6-11-1934	Khor Lolle	U.S. Tonga Cut ... ..	13.16	"	41
7-11-1934	" "	" " " " ... ..	13.16	"	40
16-11-1934	" "	" " " " ... ..	13.16	"	39
15-11-1934	" "	" " " " ... ..	13.15	"	36
6-11-1934	" "	At 23 kms. U.S. Tonga Cut ... ..	—	—	34
6-11-1934	" "	" 35 " " " " ... ..	—	—	36
6-11-1934	" "	" 40.5 " " " " " ... ..	—	—	27
6-11-1934	" "	" 41 " " " " " " ... ..	—	—	17
6-11-1934	Khor Yergol	Mouth ... ..	14.36	Khor	20
16-11-1934	" "	" ... ..	14.35	Yergol	16
25-11-1934	" "	" ... ..	14.34	"	12
7-11-1934	Maya Sinyora	" ... ..	14.09	Lake Mo	10
17-11-1934	" "	" ... ..	14.07	"	8
26-11-1934	" "	" ... ..	14.07	"	7
Bahr el Zerâf and Tributaries					
26-8 -1934	Zerâf	U.S. Tail cut No. 1 ... ..	28.37	Tail cut 1	35
26-8 -1934	Jebel-Zerâf Cut No. 1	Tail ... ..	28.37	"	84
26-8 -1934	" " " " 2	" ... ..	26.72	Pole 53	19
26-8 -1934	Zerâf	50 mts. D.S. Pole 53 ... ..	26.72	"	155

### Occasional Discharges (contd.).

*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> . p.s.
			Reading	Site	
			M.		
<b>Bahr el Jebel and Tributaries</b>					
18- 8-1934	Jebel	Bor ... ..	11.43	Bor	795
18- 8-1934	"	At about 7 kms. D.S. Bor. ... ..	11.43	"	778
18- 8-1934	Spill out	At the offtake, kilo 611 ... ..	11.43	"	—11
18- 8-1934	Jebel	U.S. Aliab Tail 1 ... ..	11.43	"	698
18- 8-1934	Aliab Tail 1	Mouth ... ..	—	—	99
18- 8-1934	" " 2	" ... ..	—	—	—13
18- 8-1934	Jebel	D.S. Aliab Tail 2 ... ..	—	—	777
18- 8-1934	"	0.5 kilo U.S.R.P. 120 ... ..	—	—	731
18- 8-1934	"	1 kilo D.S.R.P. 119 ... ..	—	—	739
19- 8-1934	"	About 0.5 kilo U.S.R.P. 118 ... ..	—	—	694
19- 8-1934	Atem Head 1	Head ... ..	—	—	32
19- 8-1934	Jebel	D.S. Atem Head 1 ... ..	—	—	588
19- 8-1934	"	At about 0.5 kilo U.S.R.P. 116 ... ..	—	—	620
19- 8-1934	"	0.5 kilo. U.S. Atem Head 2 ... ..	—	—	535
19- 8-1934	"	D.S. Atem Heads 2a and 2b ... ..	—	—	480
20- 8-1934	Atem Heads 2c & 3	Junction of both ... ..	—	—	184
19- 8-1934	Jebel	D.S. Atem Heads 2c & 3 ... ..	—	—	343
20- 8-1934	"	U.S. Atem Head 4a ... ..	—	—	335
20- 8-1934	"	D.S. Atem Head 4c... ..	—	—	253
20- 8-1934	"	R.P. 112 ... ..	—	—	195
20- 8-1934	"	U.S. Lake Papiu ... ..	—	—	165
20- 8-1934	Lake Papiu	Mouth ... ..	—	—	367
20- 8-1934	Jebel	D.S. Lake Papiu ... ..	—	—	508
20- 8-1934	"	At R.P. 109 ... ..	—	—	483
21- 8-1934	"	U.S.R.P. 108 ... ..	—	—	453
21- 8-1934	"	R.P. 107 ... ..	—	—	432
21- 8-1934	"	2 kms. U.S.R.P. 104 ... ..	—	—	389
22- 8-1934	"	Kenisa Gauge ... ..	11.15	Kenisa	323
22- 8-1934	"	Abukika ... ..	—	—	350
22- 8-1934	Awai Head 1	Head ... ..	—	—	51
22- 8-1934	Jebel	D.S. Awai Head 1 ... ..	—	—	244
22- 8-1934	"	U.S. Inlet on R.B. ... ..	—	—	189
22- 8-1934	Inlet	At Tail ... ..	—	—	69
23- 8-1934	Jebel	U.S. Awai Tails 1a & 1b ... ..	—	—	252
23- 8-1934	"	D.S. Awai Tail 1b ... ..	—	—	601
23- 8-1934	Awai Tail 2	Mouth ... ..	—	—	—53
23- 8-1934	Jebel	D.S. Awai Tail 2 ... ..	—	—	458
23- 8-1934	"	U.S. Shambe Lagoon ... ..	—	—	456
23- 8-1934	"	D.S. Shambe Lagoon ... ..	—	—	538
24- 8-1934	Awai Head 2	Head ... ..	—	—	15
24- 8-1934	Jebel	U.S.R.P. 79 ... ..	—	—	525
24- 8-1934	"	U.S. Awai Head 3 ... ..	—	—	449
24- 8-1934	Awai Head 3	Head ... ..	11.72	AwaiTail	99
24- 8-1934	Jebel	About 100 mts. U.S. Awai Tail 3a ... ..	—	—	362
24- 8-1934	Awai Tail 3a	At Tail ... ..	11.72	AwaiTail	165
24- 8-1934	Awai Tail 3b	" ... ..	11.72	"	101
24- 8-1934	Jebel	Awai Tail Gauge ... ..	11.72	"	563
25- 8-1934	"	R.P. 72 ... ..	—	—	510
25- 8-1934	"	U.S. Lake Nyong ... ..	—	—	467
25- 8-1934	"	D.S. " " ... ..	—	—	586
25- 8-1934	"	U.S. Western Channel ... ..	—	—	562
25- 8-1934	"	About 500 mts. D.S. Tail of Western Channel ... ..	—	—	577
25- 8-1934	"	R.P. 65 ... ..	—	—	539
25- 8-1934	Spill out	At the offtake, kilo 319 ... ..	—	—	—29
25- 8-1934	Jebel	About kilo 317 ... ..	—	—	474
25- 8-1934	"	At R.P. 63 ... ..	—	—	396

### Occasional Discharges (contd.).

(Observed by the Irrigation Department)

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
Bahar el Jebel and Tributaries (contd.)					
25- 8-1934	Jebel	Ghabet el Inderab ... ..	12.15	Gha. Inderab.	443
26- 8-1934	"	U.S. Head Cut 1 ... ..	12.06	Head C. No.1	391
26- 8-1934	Jebel Zerâf Cut No. 1	Head ... ..	12.06	"	94
26- 8-1934	Jebel	U.S. Head Cut No. 2 ... ..	26.85	" 2	276
27- 8-1934	Jebel Zerâf Cut No. 2	Head ... ..	26.85	"	17
27- 8-1934	Peake's Channel	Tail ... ..	—	—	137
27- 8-1934	Jebel	About 200 mts. D.S. Tail Peake's Channel ... ..	26.85	Head C. No.2	397
27- 8-1934	"	U.S. Fell's Channel Head ... ..	—	—	380
27- 8-1934	"	D.S. Head of Fell's Channel ... ..	—	—	380
27- 8-1934	"	R.P. 52 ... ..	—	—	376
27- 8-1934	"	" 51 ... ..	—	—	275
27- 8-1934	"	" 50 ... ..	—	—	272
27- 8-1934	"	" 49 ... ..	—	—	285
27- 8-1934	"	" 48 ... ..	—	—	256
27- 8-1934	"	U.S. Fell's Channel Tail ... ..	—	—	262
27- 8-1934	Fell's Channel	Tail ... ..	—	—	146
27- 8-1934	Jebel	U.S. Gage's Channel ... ..	11.02	Billet N.ber	404
28- 8-1934	"	Adok ... ..	—	—	357
28- 8-1934	"	R.P. 37 ... ..	—	—	412
28- 8-1934	"	" 30 ... ..	—	—	400
28- 8-1934	"	" 25 ... ..	—	—	368
29- 8-1934	"	" 19 ... ..	—	—	354
30- 8-1934	"	" 13 ... ..	—	—	352
30- 8-1934	"	" 7 ... ..	11.30	Buffalo Cape	326
30- 8-1934	"	" 4 ... ..	—	—	319
30- 8-1934	"	Kilo 3 ... ..	14.00	Lake No	304

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